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Politics this week

Sep 16th 2004
From The Economist print edition

Continuing carnage

GettyImages

In two incidents in central **Baghdad**, a car bomb aimed at would-be police recruits killed over 50 people and American helicopters killed dozens more. American and Iraqi officials still insist January's election will go ahead, but perhaps not everywhere. Kofi Annan, the UN secretary-general, said the American-led invasion of Iraq was illegal. Two Americans and a Briton were abducted in Baghdad.

See article

Despite settler demonstrations, petitions and threats, **Ariel Sharon,** the Israeli prime minister, insisted that withdrawal from Gaza would go ahead next year. In back-to-back raids in the West Bank, Israel killed ten people, including six militants and a young girl.

See article

The UN Security Council continued to argue over whether to threaten **Sudan** with sanctions for the killings by *janjaweed* militiamen in Darfur (which the Bush administration declared to be “genocide”). The European Union said it would impose sanctions soon if Sudan failed to disarm the *janjaweed*. The World Health Organisation said up to 10,000 Darfuris a month were dying in camps.

The **Arab League** held a divisive, and evasive, meeting after the UN Security Council urged Syria to withdraw troops from Lebanon. Egypt's President Hosni Mubarak made a hasty trip to Syria.

See article

Kremlin power play

President **Vladimir Putin** took advantage of the mood of national crisis and revulsion which followed the bloody Beslan school siege to expand his own powers. He announced plans to appoint rather than elect regional governors, and to strengthen party control over parliament. Americans and Europeans expressed concern about Russia's increasing authoritarianism—and were told to mind their own business.

See article

After an outcry around the European Union, the **Turkish government** dropped its plans to criminalise adultery as part of its new penal code. Its concession came just two weeks before the European Commission is to pronounce on Turkey's readiness to begin EU membership talks.

See article

Hungary raised its budget-deficit forecast for 2004 from 4.6% to 5.0-5.3%. The finance minister, Tibor Draskovics, promised there would be no more revisions. To reassure markets, the new government led by Ferenc Gyurcsany confirmed that it would keep Mr Draskovics in place.

In a long-planned move, **Iceland's** prime minister, David Oddsson, swapped places with his foreign minister, Halldor Asgrimsson. Mr Oddsson was Europe's longest-serving prime minister, having been in office for 13 years.

Guns for sale

Reuters

A ten-year federal ban on the sale of **assault weapons** expired after Congress declined to re-authorise the legislation. The law, signed by Bill Clinton in 1994, outlawed the sale of 19 sorts of semiautomatic guns. Since then, some states have passed their own stringent versions of the law.

Amnesty International reported that since 1990 **America** and **Iran** have executed the highest numbers of juvenile offenders (people who commit death-penalty crimes before turning 18) and called for the practice to stop. America's Supreme Court will look at the issue later this year.

George Bush addressed a conference of National Guard associations in Las Vegas. Meanwhile, Democrats again stepped up their attacks on Mr Bush's record in the Guard during the Vietnam war, though doubts were cast on the authenticity of some documents used to back the claims.

See article

The Supreme Court said that an **anti-abortion group** in the electoral battleground of Wisconsin could not air ads that directly criticised Democrats in the state. The Federal Election Commission argued that the ad broke current law by being broadcast fewer than 60 days before a general election.

See article

Canada's health deal

After an acrimonious three-day meeting, **Canada's** prime minister, Paul Martin, and provincial premiers were said to have agreed on a deal that would see an extra C$18 billion ($14 billion) spent on health over the next six years.

Canadian officials welcomed an announcement by the United States Commerce Department that it would accept a ruling by a NAFTA panel that Canada's exports of **softwood lumber** are not subsidised. But the Commerce Department said it would not immediately lift countervailing duties on lumber, suggesting that it might back an extraordinary challenge to the NAFTA ruling.

See article

In southern **Colombia**, some 40,000 Indians protested over President Álvaro Uribe's security policies. They want the right to stay neutral in the fight between the government and the guerrillas, against whom they have used unarmed resistance. Other Colombian Indian tribes have welcomed army reinforcements.

See article

Reuters

Hurricane Ivan continued its devastating march across the **Caribbean**. It killed more than 70 people in all, and caused extensive damage in Grenada and Jamaica. In Cuba the government evacuated 1.9m people. The storm reached the Gulf Coast of the United States, where 2m had left their homes.

See article

In **Venezuela**, the government of President Hugo Chávez announced that it was setting up a state-owned telecoms firm to compete with two privatised companies, one owned by Verizon of the United States and the other by Spain's Telefónica.

See article

Anwar's hopes dashed

Malaysia's former deputy prime minister, Anwar Ibrahim, lost an appeal against a conviction for corruption. Mr Anwar, who was recently cleared of a sodomy conviction, cannot re-enter politics unless he is granted a royal pardon, which he said he would consider seeking.

Three Americans, including a special-forces veteran, were jailed by a court in **Afghanistan** for up to ten years for waging a freelance war on terror, which involved running a private prison, kidnapping and torture. The men were arrested in Kabul after a shootout with police. Eight prisoners were later set free from a private house in the city.

Non-essential staff at the United States embassy were withdrawn from **Nepal** after bomb attacks on American targets in Katmandu. Police blamed the explosions on Maoist rebels who have been besieging the capital.

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Business this week

Sep 16th 2004
From The Economist print edition

Goodbye Mr Eisner

Michael Eisner, the iconic chief executive of **Walt Disney**, announced that he will retire from his position when his contract expires in September 2006. Mr Eisner, 62, has had a tumultuous year, losing his position as chairman and successfully rebuffing a hostile bid from Comcast, a cable provider. He would like Bob Iger, his deputy, to take over. The board may have other ideas.

See article

A consortium led by **Sony** reached an agreement to buy **Metro-Goldwyn-Mayer**, a legendary Hollywood studio, for about $4.8 billion, including assumption of MGM's $2 billion in debts. **Comcast** could be brought in to use MGM's film library as a basis for cable channels or video-on-demand services.

See article

WPP, the world's second-largest advertising group, won a contest for American marketing company **Grey Global**, paying $1.52 billion. The British firm outbid a French advertising group, **Havas**, which may now feel pressure from big marketing groups.

Dear Abbey...

HBOS, Britain's fifth-biggest bank, decided not to bid for **Abbey**, the sixth-biggest. This clears the way for **Banco Santander Central Hispano**, which won approval from the European Commission for its £8.7 billion ($15.5 billion) proposal to Abbey.

Converium, a big European reinsurer, suffered a downgrade by Standard & Poor's. Its share price fell by 16%. In July, the company dismayed investors by saying it needed to boost reserves by up to $400m.

See article

Citigroup apologised to its employees for the August 2nd incident in which the group's London-based traders sold *euro*11 billion ($13.5 billion)-worth of European sovereign bonds, buying some of them at a cheaper price just minutes later. Meanwhile, an inquiry by Japanese regulators concluded that a Citigroup unit had misled clients about a sale of structured bonds.

One for the prophet

An American court ruled that **Oracle** could proceed with its hostile bid for **PeopleSoft**, a fellow software-applications firm. The judge said America's antitrust authorities were defining too narrowly the software market in which the firms operate. European trustbusters may pursue a separate investigation into the bid.

See article

It emerged that **Fidelity,** an American mutual fund, had snapped up over a quarter of the shares issued by **Google** in its initial public offering on August 19th. Google had hoped that more individual investors would bid for the stock.

Schering-Plough, an American drug-maker, acquired the exclusive rights to sell **Bayer's** pharmaceutical products in America. Schering, whose fortunes have fallen since its patent for Claritin, an allergy drug, expired in 2002, will pay royalties to Bayer.

An advisory panel to America's **Food and Drug Administration** concluded that the use of antidepressant drugs increased the risk of suicidal behaviour in children, and said those drugs should carry a prominent warning. **Eli Lilly**'s Prozac is the only antidepressant approved for use by children, but doctors may prescribe others “off-label”.

Clipped wings

US Airways filed for protection against creditors under Chapter 11 of America's bankruptcy laws for the second time in two years, as talks on labour concessions collapsed. It thus defaulted on a $1 billion loan guaranteed by the federal government. The airline also said that it might not honour its pension obligations. The NASDAQ stock exchange said it would delist the company.

See article

After persuading its pilots to accept pay cuts and other concessions, **Alitalia** clinched a deal with its ground staff, which would allow it to save about *euro*150m ($180m) and cut 2,500 jobs.

Amid much muscle-flexing from both sides, **Volkswagen** and Germay's IG Metall trade union began talking. VW is seeking a 30% cut in labour costs and proposes freezing wages for two years, but promises to forgo layoffs. The union wants salaries raised by 4% annually, in addition to ten-year job guarantees. VW's chief financial officer has said that 30,000 jobs may go if the union stalls.

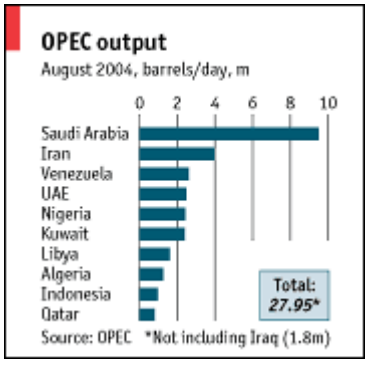
See article

Sleek moves

Russia's big Gazprom gas monopoly is to buy Rosneft, a state oil company. The deal will give the state majority control of Gazprom. Foreigners may then be allowed to buy into Gazprom shares.

See article

OPEC agreed to raise **oil output** quotas by 1m barrels per day (b/d), to 27m b/d. But the member states are already pumping almost 28m b/d and using almost their entire capacity. Saudi Arabia promised to increase output capacity by October.



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American elections

No way to run a democracy

Sep 16th 2004
From The Economist print edition

The country's electoral machinery is badly in need of repair and a rethink

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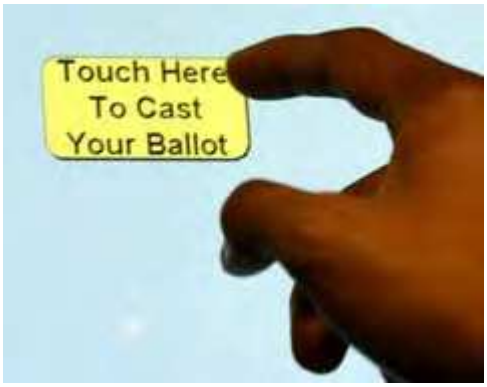

AMERICANS have a schizophrenic attitude to “American democracy”. On the one hand, many see democracy as a quintessentially American product—second only to that other elusive elixir, liberty. Both George Bush and John Kerry ended their speeches at their party conventions with hymns to their system of government.

Yet when it comes to their own elections, many Americans have their doubts. You may recall that small upset in Florida, of course; even if you accept that Mr Bush won the electoral college fairly, which by most measures he did, there is the awkward point that Al Gore won more votes. And other awkwardnesses remain. Why does barely half of the eligible electorate bother to vote? Why are so many people banned from voting? Why is this election so awash with corporate money and dominated by negative campaigning—typified by the Kerry-bashing Swift Boat veterans and the Bush-bashing Texans for Truth? Why are so many congressional districts such a very peculiar shape? Already there is the uncomfortable sight of lawyers massing in every swing state to dispute another election whose result may turn on faulty technology.

The machinery of America's democracy is creaking. That is not in most cases because there is anything fundamentally wrong with America's electoral system; rather it has to do with human error, laziness and, in the case of those gerrymandered districts, bipartisan corruption. Most of the solutions lie within the system. You can have the world's most vigorous democracy, but you still have to run it properly.

The fundamental things apply

Begin with a frank admission: there is no perfect voting system. Many of the supposed faults in the American system are not abuses, but the products of conscientious choice. Take the electoral college, with its tilt towards smaller states. If Mr Bush were to win the White House while losing the popular vote again, many Americans might consider scrapping the college; or more states might look at changing the winner-takes-all rule. Colorado is considering splitting its electoral-college votes in proportion to the votes cast (an idea which, if it spread, would make it worth Mr Bush's while to visit California and Mr Kerry's to visit Texas). If states decide to try this, fine. But they will not be mending American democracy; they will be choosing one voting system over another, as America has done throughout its history.

Or consider the most commonly voiced complaint of outsiders about American politics—that it is too full of money. In Europe, the state helps pay for campaigning and forces television networks to give time to parties; America prefers to keep elections, mostly, in the private sector. That increases the power of lobbyists (probably) and the noise from people's television sets (certainly); but it is also a more liberal system, and closer to the principle of free speech.

The real question is whether that system is being run particularly well. From a liberal standpoint, the American system ought surely to allow people to give as much money as they want, as long as the information is disclosed. Even after recent campaign-finance reform, the law puts too much onus on controlling how much money people can give to individual politicians, rather than revealing who gives what. Hence the absurdity of money being funnelled into quasi-partisan groups like the Swift Boat

Veterans.

The tumult about the ads and the money will probably get louder; but the real problem with the mechanics of American elections lies in the areas where there is less noise. For instance, one reason why so few people vote in America is because many states make registration so complicated. Many states also ban convicted felons from voting for life—a contradiction of the sound principle that once a man has served his punishment, he can rejoin society. Even apparent enhancements of democracy, such as absentee voting, can end up harming it, if they are applied carelessly; the parties can use strong-arm tactics with absentee voters that would not be permitted near the ballot box itself (see article).

Machine politics

Out of all these creaking bits of machinery, two look particularly deadly. The first is those voting machines (see article). Despite being given a fistful of money by Congress, many American states have opted for dodgy electronic voting machines. Electronic machines generally look a good idea; but they must have a paper back-up, so that voters can check that their votes have been recorded correctly; and, crucially, so that officials can hand-count the ballots if there is a very close result or if a glitch emerges, as it will. In one recent Indiana contest, 5,352 voters somehow produced 144,000 votes.

The other great blot on American democracy—redistricting—has already made a nonsense of elections to Congress. Despite all the hoopla about the 50:50 nation, no more than around 30 seats of the 435 in the House of Representatives are competitive (see article). In 2002, four out of five congressmen won their races by more than 20 points. This is because most states allow their politicians to determine the boundaries. The result is gerrymandering on a grotesque scale, with incumbents stitching up safe seats by drawing absurd districts that look like doughnuts, sandwiches and Rorschach tests.

This is not just unfair; it puts people off voting (why bother in those 400 districts where the result is a foregone conclusion?) and it drives politics to the extremes. With no chance of being unseated by the other party, a congressman's only threat is the partisans in the primary; so Republicans become ever more conservative and Democrats ever more left-wing.

As with so many of the other abuses in American politics, it need not be that way. Just as some states have bought good voting machines, others have redrawn their electoral boundaries in a sensible way. Iowa, for instance, allows an independent commission to set them. Redistricting can be fixed—and it should be. America's devotion to the principle of democracy is admirable—but the principle could be far better honoured in the practice.

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The European Union

Why Europe must say yes to Turkey

Sep 16th 2004
From The Economist print edition

The EU faces a momentous decision

Get article background

SHOULD the European Union open membership talks with Turkey? The question sounds bland, even technical—and yet the answer will be both controversial and momentous. Turkey is already in all the other big European organisations, from the Council of Europe to NATO. So long as it fulfils the Union's usual membership criteria, there might seem little reason not to take it. After all, this club has just let in a motley crew of mostly ex-communist countries from central Europe.

Yet Turkey is different from these, in four key respects. It is very large; it is very poor; not all of it is in Europe; and it is Muslim. In the past, it has suffered from plenty of failings, ranging from political and economic instability, to the interfering role of its army, to a record of human-rights abuses. These made it easy for the Europeans to fob off previous Turkish bids to join. But over the past two years, the government of Recep Tayyip Erdogan's Justice and Development party has enacted a swathe of reforms, in the hope of meeting the “Copenhagen criteria” that govern eligibility to join the EU.

In two weeks' time the European Commission will publish its assessment of whether Turkey has done enough. Barring a last-minute hiccup—such as almost happened this week, until a plan to criminalise adultery was shelved at the last minute—it is expected to recommend that entry talks should start soon, meaning early next year. In December, EU leaders must decide at a summit meeting if they agree (see article).

Risk and reward

Plainly a decision to negotiate Turkey's entry entails risks for the EU. Start with its size. Turkey already has 71m people. If it joins the EU, within 15 years it will overtake Germany as the biggest member, with the heaviest voting weight in Brussels and the largest national block in the European Parliament. Yet even then it will have only 15% of the total EU population, and it will be just one of 28 or 30 countries—hardly a position from which to dominate decision-making. There is no logic to barring a country because it is big: indeed, it could be argued that the EU suffers from the smallness of many present members.

Poverty is harder. Turkey's GDP per head is only 29% of the EU25 average, way below all existing members. Over a third of its people work on the land. The prospect of having to make huge transfers to Turkey already makes Europe's finance ministers blanch. The risk that waves of poor Turks might migrate westwards does the same to interior ministers. Yet even if entry talks start next year, Turkey is unlikely to join for at least ten years. There will be a long transition period before labour moves freely. For their part, the Turks say they are not looking for copious hand-outs: they want foreign investment.

Next is the question of whether Turkey is even in Europe. The EU's treaties are vague on the Union's physical boundaries. But nobody disputes that a chunk of Turkey, including its biggest city, Istanbul, lies on the European continent. Most of Cyprus, which has just joined the EU, is east of Ankara, Turkey's capital. In any case, Brussels conceded as far back as 1963 that Turkey was sufficiently European to be a candidate one day. It cannot now go back on grounds of geography.

Which leaves the fourth and biggest worry of all: Islam. The European Union is not a Christian club. Already as many as 12m EU citizens are Muslim, and the Union's founding articles include respect for religious freedom. The religious argument against admitting Turkey rests on two other propositions. One is that Islam is, by its very nature, incompatible with a secular, liberal democracy. The other is that Islamic fundamentalism is on the rise in the Muslim world, including Turkey. This is not a case of equating Islam with support for Osama bin Laden. But the two propositions still make many Europeans hostile to Turkey's plan to join their Union.

Yet ever since Ataturk, successive Turkish governments have been fiercely secular. The only other European country that is as rigorous over enforcing a separation of church and state is France; not coincidentally, these are the only two countries that ban the Islamic headscarf in public schools. As for Turkey's democratic credentials, although they may have been tarnished in the past, they now look stronger than those of some countries that have just joined the EU. The media are free and lively; parliament has noisy and open debates; Mr Erdogan's party was elected by a thumping majority in 2002, and is expected to be re-elected in two years' time.

There is no denying that the party has Islamist roots, however. Mr Erdogan himself was once imprisoned for reciting an Islamist poem in public, an act deemed to incite religious hatred. His government has also promoted some Islamist measures, including its failed attempt to relax restrictions on religious schools, and now its abortive plan to criminalise adultery. The EU is right to fret about these. But such measures themselves are mild compared, say, with the condition of Ireland when it joined in the 1970s. The Catholic Church then held sway over most of Irish public life, keeping such things as contraception, abortion and divorce all illegal.

Islamophobia

It is impossible to demonstrate *a priori* that Islam is compatible with liberal democracy. But Turkey is as good a test-case as any with which to prove the point. Indeed, it is precisely in order to encourage Turks (and other Muslims) to buy into liberal democracy that Turkey must be given the benefit of the doubt, and offered EU membership talks. If the Turks move backwards, whether on human rights or on religious fundamentalism, they can always be shown the door again.

The ramifications stretch far beyond Turkey. America and its allies are seeking to foster liberal democracy in the Middle East. In the post-September 11th world, a no to Turkey could have catastrophic consequences. If the EU were to turn its back on Turkey now, not only might Turkey's own reforms be under threat, but it would be widely interpreted in the Muslim world as a blow against all Islam. Conversely, if Turkey becomes part of the European club, it would serve as a beacon to other Muslim countries that are treading, ever so warily, down the path to freedom and democracy.

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US Airways

Enough already

Sep 16th 2004
From The Economist print edition

Airlines in America are abusing Chapter 11

Get article background

AP

US AIRWAYS is coming to stand for all the mistakes of the American airline industry. Mismanaged, mired in debt and crippled by a recalcitrant workforce, the airline filed for protection from its creditors under Chapter 11 of America's bankruptcy law on September 12th. It did so despite receiving a loan guarantee for $1 billion from the government's fund set up to bail out struggling airlines in the aftermath of the September 11th attacks. As if that were not bad enough, this week's bankruptcy filing was the airline's second in two years. Even by the standards of American airlines, which have all too frequently sought Chapter 11 protection, this is somewhat over the top. Enough is enough. The bankruptcy court's judge, and the American government, should now permit economic reality to prevail by letting US Airways go into liquidation.

US Airways' egregious example, and the airline industry's frequent resort to Chapter 11, risk bringing America's generally admired bankruptcy process into disrepute. If, as seems highly possible, Delta Air Lines later this year joins United Airlines and US Airways in Chapter 11, no less than 42% of the American airline industry will be kept aloft only by the courts.

The purpose of Chapter 11, and a reason why Europe is moving to adopt a version of it, is that it encourages risk-taking by providing firms a safe haven to survive a temporary financial crisis, and a way for creditors to avoid heavy losses through the distress sale of assets. But in the airline industry Chapter 11 is being abused simply to keep in place inefficient surplus capacity. America's airlines have lost $23 billion since 2001, and they look like losing a further $4 billion this year. Unless some airlines are allowed to go out of business, so reducing the over-capacity that is causing carriers to slash prices, the entire industry is endangered by financial failure. The business model of the big American network carriers looks badly flawed now that low-cost, low-fare carriers with simpler point-to-point networks have grabbed a third of air traffic.

The combination of September 11th, SARS, the Iraq war and high fuel prices has added to the burden of an industry already in trouble. After a brief period of profitability in the late 1990s during the dotcom boom, it again began to make losses. Even after cutting 27% of their workforce and forcing employees to accept lower pay, the big carriers still have higher operating costs than upstarts such as Southwest and JetBlue.

Now employees are balking at further cuts, even if that threatens the future of their airlines. Failure to reach agreement with unions over how to reduce costs by another $800m was the immediate trigger that sent US Airways back to Chapter 11. US Airways' employees apparently expect its creditors or the federal government to bail it out again. They may have good reason for hope. The demise of US Airways would eliminate thousands of jobs in swing states such as Pennsylvania right in the middle of a presidential election. The Bush administration has already shown itself ready to protect uneconomic jobs in the steel, textile and farming industries, as well as the airline industry, with trade protection or subsidies.

Europe has broken its habit of subsidising airlines—with the glaring exception of Italy's support for Alitalia. Finance ministers of other countries, as well as Brussels officials, have stood stony-faced as airlines looked for succour in recent years. America, the champion of free markets, surely ought to be able to do the same, and let the market take care of loss-making airlines.

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Insurance

The storms ahead

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From The Economist print edition

Insurers are more at risk from each other than from hurricanes

STRANGE as it may sound, this summer's battery of hurricanes came at a rather good time for insurance companies. The industry has plenty of capital after an unusually strong run these past few years. Even insurers most exposed in Florida should find the dent in their profits from the early storms manageable, though Ivan's havoc is yet to be tallied.

Testing times lie ahead, however. Insurers have been coasting a bull market for underwriting since the September 11th terrorist attacks. These caused premiums for all types of insurance to surge as huge payouts were made for lost lives, property, and businesses. And the last few years have been unusually free of natural catastrophes—at least until Charley, Frances and Ivan hurtled through the Caribbean.

Now, competition is forcing non-life rates back down. There are so many insurers, with so much capital, that they once again are scrambling to offer more generous terms at better prices. The embarrassing truth about the industry will soon re-emerge: all but the very top insurers are incapable of making money from insurance underwriting, their core business. Homeowners and drivers who loathe insurance firms may not believe it, but premiums alone are rarely enough to cover claims and expenses. In America this has been true of property/casualty insurers for the past 25 years.

Until recently, the industry has counted on investment returns to cover losses and provide profits. Insurers put their premium income into bonds and shares; this earns them money in the months or years before they must pay out for claims. In the 1990s, the bull market partially masked horrendous underwriting losses. But when bond yields fell sharply in 2000, many were left exposed. Also, property/casualty insurers' investment returns are not nearly enough to make up for their cost of capital: over the past few decades, the industry has destroyed far more value for investors than it has created.

This pattern needs to change. If they want to avoid another cruel slump, insurance companies must become more discriminating in the risks they take on, so as to make money from underwriting too—even as the market softens. That is especially true because the stockmarket now looks flat. And insurers must grapple with huge new risks. Five years ago, few paid any heed to terrorism; nor did they think twice about insuring company directors for legal liabilities before Enron came along. Though governments are helping with terrorism cover, other unknowns surely lurk.

Policyholders should pay more attention to insurers' financial condition too. If paying premiums is a nuisance, attempting to wring money from a ruined insurer is far worse—as anyone who put their savings into Equitable Life, a flailing British life insurer, can attest. Misfortune can come at a moment's notice; one big reinsurer is on the ropes this week (see article). In 2001, 38 American property/casualty insurers went bust.

The good news is that more insurers have realised the importance of disciplined underwriting. Many, such as the Lloyd's of London market (see article), are putting new controls in place. Others have wisely hired executives from other industries. They are getting to work fixing shockingly antiquated data-processing systems, which should ensure a clearer understanding of their exposures. But insurers must follow through on their resolutions to stick with a disciplined approach to underwriting. If they do not, the damage will be far greater than that inflicted by mere hurricanes.

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The self-service economy

Do it yourself

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Self-service technologies, such as websites and kiosks, bring both risks and rewards

SO YOU want to withdraw cash from your bank account? Do it yourself. Want to install a broadband internet connection? Do it yourself. Need a boarding card issued for your flight? Do it yourself. Thanks to the proliferation of websites, kiosks and automated phone systems, you can also track packages, manage your finances, switch phone tariffs, organise your own holiday (juggling offers from different websites), and select your own theatre seats while buying tickets. These are all tasks that used to involve human interaction. But now they have been subsumed into the self-service economy (see article).

Many people complain about companies outsourcing work to low-wage economies: but how many notice that firms are increasingly outsourcing work to their own customers? In theory, companies can save money by replacing human workers with automated self-service systems, while customers gain more choice and control and get quicker service. There is even talk of self-service doing for the service sector what mass production did for manufacturing, by enabling the delivery of services cheaply and on a massive scale. Surely the expansion of self-service into more and more areas is to be welcomed?

Touch-tone torment

Not necessarily. When it is done well, self-service can benefit both companies and customers alike. But when done badly—who has not found themselves trapped in a series of endless touch-tone menus?—it can infuriate and alienate customers. In their desire to cut costs, many companies deliberately make it difficult to get through to a human operator; yet their phone or web-based self-service systems do not always allow for every eventuality.

In areas where self-service is only just starting to take hold, this is less of a problem: fuming customers can, after all, always take their business elsewhere. But if every bank were to adopt impenetrable self-service systems, disgruntled customers would no longer be able to express their discontent by voting with their feet. Such a scenario ought to provide an opportunity for some firms to differentiate themselves: some banks, for example, already promise that their telephone-banking services always offer the option of talking to a human operator. But in return for guaranteed access to humans, many firms will simply charge more.

As a result, people who prefer not to use self-service systems (such as the elderly) will be forced to pay higher prices. This is already happening: many travel firms offer discounts to customers who book online. Buy your tickets the old-fashioned way and you must pay more. Firms are, in effect, introducing penalty charges to persuade customers to use self-service systems. Some customers might resent this.

Another objection to self-service is that while it saves companies money, it does not always save their customers time. In the best cases, it does, of course: checking yourself in at the airport or tracking your own packages on a shipping firm's website can be quicker than queueing or making a phone call. But as more and more tasks are unloaded on to customers, they may start to yearn for the (largely mythical) days of old-fashioned service. Again, this ought to provide an opportunity for specialists (such as travel agents) who can offer a convenient, one-stop-shop service.

All of this suggests that there are limits to how far self-service can be taken. Companies that go too far down the self-service route or do it ineptly are likely to find themselves being punished. Instead, a balance between self-service and conventional forms of service is required. Companies ought to offer customers a choice, and should encourage the use of self-service, for those customers that want it, through service quality, not coercion. Self-service works best when customers decide to use a well designed system of their own volition; it infuriates most when they are forced to use a bad system. Above all, self-service is no substitute for good service.

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British pensions

How Labour wrecked your pension

Sep 16th 2004
From The Economist print edition

Bad policies and a bear market made this mess. The solution is obvious but the government is scared

WHEN Labour came to power in 1997, Britain's pension system was in good health. Pensioners' incomes had, on average, risen a lot faster than wages in the 1980s and 1990s; the state pensions system was affordable both for the current generation of taxpayers and for future ones. British politicians pointed disparagingly at the problems in continental Europe, and prided themselves on how well things had been managed over here.

No longer. Britain's pension system is in a mess. Assets have shrunk and liabilities have mushroomed. Few believe that the state system can work in the long term, and reforming it has shot to the top of the political agenda (see article).

Not all of this is the government's fault. Ministers can't be blamed for the fact that the actuaries got it wrong, and that there will be a million more pensioners alive at the start of the 2020s than they were forecasting when Labour took office. Longer lives put pressure on both private and state-financed pension schemes. Nor is the government to blame for the three-year bear market from the start of 2000 which did for the company final-salary scheme. Despite the subsequent recovery in stockmarkets, a worryingly large gap remains between the value of pension assets and the value of pension promises. That deficit is currently around £75 billion ($135 billion) for Britain's top 350 quoted companies, according to Mercer, an actuarial consultancy.

Silly to save

Yet the government shares in the blame for what has happened in the private sector. In his first budget, in 1997, the chancellor of the exchequer, Gordon Brown, stripped more than £5 billion a year from pension-fund finances by taking away their dividend tax credits. At the time, the move was hailed as an ingenious stealth-tax, a political masterstroke. But now that the final-salary pension scheme is dying—among the top 350 quoted companies, the proportion of final-salary schemes open to new members fell from 64% at the end of 2001 to 33% at the end of 2003—Mr Brown is seen as partly responsible for its demise. Final-salary schemes are becoming the preserve of the public sector (see article)—a disparity that is bound to stoke political resentment.

The government is also implicated in the disasters that have ripped through the savings business outside company pension schemes. Whether the collapse of Equitable Life or the massive losses incurred by those who invested in split-capital trusts could and should have been prevented is a matter for debate. But the public perception is that the regulators failed and ordinary people suffered.

When people are living longer, they should be saving more. But that is not happening. The troubles of the company pension schemes and the insurance industry's disasters have put people off saving, and the government's policies have reinforced the message that it is foolish to be prudent.

Means-testing is the culprit. Gordon Brown decided that the best way of alleviating pensioner poverty while holding taxes below mainland European levels was to keep basic pensions at pocket-money levels and to give decent-sized benefits only to those with hardly any savings. As savings rise, benefits drop. That means, in effect, marginal tax rates of 40-91% for people with no more than moderate savings: for

every £1 they get in income from what they have put aside, they lose somewhere between 40p and 91p in forgone benefits.

Faced with such sums, no rational person would save. Those marginal tax rates explain why, according to the Association of British Insurers, Britons should be saving £27 billion a year more for their retirement than they are; why the government's attempt to increase retirement saving through its “stakeholder” pension—a revamped personal pension with low fees—has flopped; and why, unless the current system is reformed, two-thirds of British pensioners will be on means-tested benefits in 20 years' time.

Granny power

Tony Blair, who has spent much of the past three years thinking about Iraq, is refocusing on the domestic scene. An election is likely next May, which is one reason why the pensions issue is looming so large. Because older people tend to vote more than younger people, they have a lot of electoral clout: some 40% of voters who turn out at the next election are likely to be pensioners. And it's not just older people who are worried: fear of an insecure and impoverished old age has seeped through the ranks of the middle-aged baby-boomers.

So what can the government do? Not a lot about the troubles of private-sector pensions, except to beef up the regulations (which it has done), set up a compensation fund to help those left in penury by the collapse of company pension schemes (which it has done) and hope equity markets don't collapse again. But that does not solve the problem of what to do about state pensions—an issue which Mr Blair last week wrested from the chancellor when he replaced the pensions minister, one of Mr Brown's men, with one of his own.

The government has three options. It could increase the state pension to a reasonable level, so that people could choose either to live on it or to save in order to supplement it. It could carry on with means-testing but make some retirement saving compulsory. Either of those would be unpopular because the first would jack up taxes and the second would have much the same effect. It would cost nearly 3p extra in tax on every pound earned to raise the basic state pension from £80 to £105 a week.

Which leaves the third, and most sensible, option—raising the age of eligibility for state pensions. The current age for men was set in 1925, when life expectancy at 65 was 11 years (now it is 16 years). There is a consensus among those who think about the future of pensions that it will have to go up. This prospect fills the government with fear—Mr Blair does not want to go into the next election as the man who'll make you work till you drop—but the alternatives are so much less attractive that it will get there in the end.

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Letters

Sep 16th 2004
From The Economist print edition

The Economist, 25 St James's Street, London SW1A 1HG
FAX: 020 7839 2968 E-MAIL: letters@economist.com

A bug's life

SIR – You rightly draw attention to the threats caused by locusts in the Sahel, but your comments on control measures are uncharacteristically off the mark ("Billions of bugs", August 14th). You refer to the use of tractors for spraying and suggest that ploughing fields full of eggs might control locusts. But this is flawed because there are very few tractors in the Sahel region and the chances of finding areas with substantial numbers of desert-locust eggs, or even hopper bands, is vanishingly small. Our inability to find hopper bands is partly why plagues "suddenly" appear.

African locusts are usually controlled by spraying oil-based insecticides. There was considerable public concern about the environmental impact of widespread spraying of broad-spectrum insecticides during the last major desert-locust outbreak in the 1980s. In response, a consortium of governments (Canada, the Netherlands, Switzerland, Britain and the United States) invested $18.3m to investigate alternative techniques, concluding that the fungus *Metarhizium anisopliae* provides the best alternative. Like most biological processes this is slow acting, but you are incorrect to imply that it is "less effective". In a number of trials it achieved a more profound kill of various locust and grasshopper species, more selectively than standard chemical insecticides. If crops are not immediately threatened, then this technique is effective with verifiable environmental benefits.

Roy Bateman
International Pesticide Application Research Centre
Ascot, Berkshire

Sex pays

SIR – As someone who has worked as a "high-class" prostitute in London, I would like to commend your intelligent leader on prostitution ("Sex is their business", September 4th). However, it seems to me that ultimately it is in prostitutes' interest to make our private business public. Our marginalisation—even by the majority of feminists who persist in seeing sex workers as victims of abuse or false consciousness—has perpetuated our stigmatisation. This, in turn, has made it difficult for prostitutes to contribute to the debate without risking alienation from family, etc. I believe it is imperative for women such as myself (who entered the sex industry voluntarily; whose lives were improved by the economic power it provided; who found the reality of the work challenged most of the clichés) to come forward and contribute to future studies. Only by articulating our experiences, and gaining visibility for our (not so grubby) bodies, can we hope to alter public perceptions and influence policy.

Dr Marie-Anne Mancio
Paris

SIR – If you can find one person on the staff of *The Economist* who says it is fine for their daughter to become a prostitute, or one person in a healthy marriage who says it is okay for their spouse to have sex with a prostitute, then I will consider your argument that it should be legalised. If you cannot produce such a person, then you must reconsider whether your argument misses a bigger picture. Perhaps no one in the room is harmed. What is likely to be harmed is family.

Dave West
Greenwich, Connecticut

Referendum rebuttal

SIR – As a result of a series of grave missteps on the part of the observation teams from the Organisation of American States (OAS) and the Carter Centre, the outcome of the referendum in Venezuela continues to be challenged by a growing number of people in Venezuela and overseas ("By invitation", September 4th). One cannot but be amazed that President Jimmy Carter was all too happy to swiftly validate the work of the National Election Council (CNE) despite the opposition stating they would be contesting the outcome minutes after it was announced. Jennifer McCoy claims that they proposed a second audit, but this was conducted under pressure from the opposition which publicised the fact that the OAS and Carter Centre had not completed their original "hot audit" and therefore had misled the population when issuing their certification.

That second audit has now been questioned on many grounds including the fact that, through a set of careless procedures, the observers could have been duped when selecting a random sample of centres to audit. The implications of this are daunting. To disprove this conclusion, the observers will now have to admit they relied on a CNE-selected randomisation model run on a CNE computer. This is hardly a safeguard or a point of control when dealing with a CNE that for months had attempted by all means to liberate itself from any foreign observation.

It is tragic that after two years of facilitation in Venezuela, Dr McCoy is unable to own up to the fact that, rather than contributing to the solution of a grave crisis, the OAS and Carter Centre might actually have stoked it.

Pedro Burelli
Caracas

Temasek

SIR – Your article "First Singapore, next the world" (August 14th 2004) paints a distorted picture of Temasek Holdings, and casts aspersions on Temasek's corporate governance.

I did not say that our CEO "doesn't see the point of talking to journalists". Ms Ho Ching has met with various Singaporean and international editors and journalists. There is no basis for your comment.

Temasek operates on principles of excellence, integrity and meritocracy. Although owned by the Ministry of Finance, Temasek is a private limited commercial company. It has to obtain proper returns for its investments.

Temasek is not a government-directed policy agency. Under the Singapore constitution, the appointment of its board members and CEO is subject to the approval of the elected president of the country acting in his own discretion. The relationship of Temasek-linked companies (TLCs) with Temasek is not very different from their relationship with any other institutional investor. TLCs receive no favours from the government. They make their own investment and business decisions based on their best interests. Their managements are answerable to their respective boards. They are subject to market discipline and strive to deliver value to their shareholders. Their overall financial strength speaks for itself.

Eva Ho
Director, Corporate Communications
Temasek Holdings (Pte) Ltd
Singapore

Pipe dreams

SIR – The root economic cause of the third-world water problem is the combination of expensive, immobile assets (pipelines and treatment facilities), low variable costs of operation (treatment and delivery) and unenforceable contracts; politicians find the short-run costs too high ("How not to help those in need", August 28th). And the situation is more widespread than you describe: even in wealthy countries, water systems often burden future customers by scrimping on maintenance. In today's poor countries, maybe the only solution is to consult, build and leave, collecting the entirety of one's fee upon departure.

Ben Vaughan
San Antonio, Texas

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Turkey and the EU

The impossibility of saying no

Sep 16th 2004 | ANKARA AND ISTANBUL
From The Economist print edition

Gamma

Many European governments dislike the idea of Turkey joining the European Union—but they are still likely to agree in December to open membership talks

Get article background

THIS is a tale of two countries that want to join the European Union. The first has been a stalwart member of NATO for over 50 years. It has a flourishing democracy, a lively free press and a stable government with a big parliamentary majority. Although most of its people are deeply religious, it is fiercely secular. Its economy is booming: over the past two years, GDP has grown by an annual average of 8.4%, and inflation has fallen by three-quarters, close to single figures. Unlike the current EU, it has a young and growing population. Its biggest city was a cradle of Christian (and European) civilisation. It sounds, in short, like a shoo-in for the EU.

The second country is quite different. It lies mostly in Asia, and it borders such troublesome places as Iraq, Syria and Iran. Its economy has been a basket-case for decades, its currency has been repeatedly devalued, many of its banks are ailing and it is one of the largest debtors to the IMF. It is far poorer than even the poorest of the ten countries that joined the EU in May. It has a history of military coups. Its dreadful human-rights record and its torture of prisoners are well documented. Its people are overwhelmingly Muslim, and it could soon be the EU's biggest member by population. In short, the EU should not touch it with a bargepole.

The question of which country the EU should admit is, of course, a trick one. For these are not two countries, but one: Turkey. This year the Turkish prime minister, Recep Tayyip Erdogan, has become a familiar figure round Europe, pressing the case for starting membership talks. Now the moment of truth is at hand. In two weeks' time, the European Commission will publish its verdict on Turkey's readiness. And in December EU leaders must decide whether to say yes, and fix a date next year for the start of negotiations.

That it is possible, in our tale of two countries, to depict Turkey in such diametrically opposed ways shows why it presents such a poser for the EU. No other country's putative membership arouses such passions. It was a big issue in last June's European elections. This month, fresh controversy has broken out over a Turkish government proposal to criminalise adultery, which was hastily dropped after an outcry around Europe.

Several European commissioners have spoken out against Turkey's aspirations. Franz Fischler, the (Austrian) agriculture commissioner, has said that Turkey is more oriental than European. Frits

Bolkestein, the (Dutch) single-market commissioner, declared that Turkish entry would mean that 1683 (when Turkish troops were thrown back from the gates of Vienna) would have been in vain. And Valéry Giscard d'Estaing, a former French president, has said that Turkish entry would mean the end of Europe.

The question of Turkish membership of the European club has been around for four decades. Turkey was the second country to sign a European association agreement, normally seen as a prelude to membership, as long ago as 1963. It formally applied for membership only in 1987. The European Commission recommended against that application in 1989, but it remained on the table. Throughout the 1990s, even as they prepared to take in the eight central European countries that joined in May, European leaders trod gingerly around Turkey's hopes, though in 1996 an EU-Turkey customs union was formed. In 1997 an EU summit pointedly left the country off its list of candidates.

This evasiveness irritated the Turks. Turkish politicians continued to insist on the country's European vocation. Turkish generals began to mutter that they might have done better in Brussels had they spent 40 years in the Warsaw Pact, not NATO. Yet the truth is that Turkey's instability in the 1990s, culminating in the “soft coup” that ousted a mildly Islamist party from government in 1997, made talk of EU membership moot. So did its succession of economic crises, leading to near-default and an IMF bail-out in 2001. Turkey's brutal war on Kurdish PKK terrorists in the south-east, and its repeated human-rights violations, also disqualified it.

It was not until 1999 that an EU summit in Helsinki formally accepted Turkey as a candidate. In 2002 EU leaders went further, declaring that if, in December 2004, Turkey satisfied their “Copenhagen criteria”, they would fix a date for opening negotiations. These criteria include having stable institutions that guarantee democracy, the rule of law, human rights and respect for minorities, a functioning market economy, the capacity to cope with competition within the EU and the ability to take on the obligations of membership.

The Justice and Development party, a mildly Islamist-leaning party that took office in November 2002 (though Mr Erdogan became prime minister only in March 2003), has pushed through a string of reforms to meet the Copenhagen criteria. So much so that few expect the European Commission to say no this time—although it could say “yes, but”. It has become equally hard to see how the December EU summit can avoid offering a date, probably mid-2005, for the opening of entry talks.

Good marks and bad

How has Turkey got this far? The economy has stabilised after the horrors of 2001, thanks mainly to the IMF, but also to the economic policies of the Erdogan government. There are rocks ahead: the current-account deficit remains large, and Turkey's huge debt needs constant refinancing. Foreign investment remains feeble: last year Turkey took in a mere $1 billion, one-fifth of what went to Hungary. But fiscal policy is tight, and inflation is under control.

On the political front, the Erdogan government has used its thumping parliamentary majority to push through a series of substantial reforms, including three big packets of constitutional change. Civilian control of the army, and over its budget, has been reasserted. The notorious state security courts have been scrapped. The judiciary is undergoing reform. Efforts have been made to improve human rights. The death penalty has been abolished.

Progress in Turkey's largely Kurdish south-east has been remarkable. The war with the PKK (now renamed Kongra-Gel) had already subsided after the capture of the PKK leader, Abdullah Ocalan, in 1999. Earlier this year teaching in the Kurdish language, once proscribed, was permitted. In June Turkish state television began broadcasting in Kurdish for the first time. And a Turkish court freed Leyla Zana and three fellow Kurdish parliamentarians, who had languished in jail since 1994.

Mr Erdogan's culminating achievement has been to place Turkey on the moral high ground over Cyprus. Ever since 1974, Turkey and the Turkish-Cypriots have been seen as the main obstacle to a peace settlement. The Turkish army wanted to hang on to northern Cyprus for strategic reasons; the veteran Turkish-Cypriot leader, Rauf Denktash, resisted all plans to reunite the island. So the EU decided it would *in extremis* admit the Greek-Cypriot republic on its own. But as the enlargement date of May 1st approached, one more chance was seized to revive a United Nations plan for a re-unified Cyprus, which was put to the vote in both parts of the island in April. Thanks partly to deft footwork by Mr Erdogan, the Turkish-Cypriots voted yes; this time it was the Greek-Cypriots who said no. That switch of role means that the Cyprus issue, long an obstacle to Turkish membership, is now an argument in favour.

Many people argue that these changes are not enough. The economy remains fragile. Human rights need more protection. A new penal code that has just been put to parliament includes positive measures such as tougher penalties for torturers. But, despite the climb-down over adultery, it does not improve women's rights much: for example, it is still not severe enough on “honour” killings.

On the Kurdish question, Kongra-Gel declared its ceasefire over on June 1st, because the government refuses to accept an amnesty for rebels. Some 35 soldiers and more than 70 guerrillas have since been killed. There is still local opposition to Kurdish rights. One school that planned to teach in Kurdish fell foul of a regulation about door widths. Troops have been turfing Kurds out of their homes again.

Religious freedom also remains circumscribed in Turkey. It is mysteriously hard to open a new Christian church. And the Greek Orthodox seminary on the island of Halki remains shut down. This means that no new orthodox preachers are being trained, even though the ecumenical patriarch is based in Istanbul.

Despite such failings, Günter Verheugen, the European commissioner for enlargement, who visited Ankara last week, is pleased with Turkey's progress. He has promised to treat Turkey in the same way as all other applicants, though he has placed particular stress on implementation. It is one thing for a government to pass new laws; it is quite another for practice in local police stations, barracks and courtrooms to change.

Mr Erdogan concedes that “implementation is key”. He also insists that his programme of reforms will continue even if EU leaders say no in December—he jokes that he would rename the criteria after Ankara, not Copenhagen. His foreign minister, Abdullah Gul, agrees that reforms are anyway needed to

make Turkey a modern democratic state. He too stresses implementation, citing the example of torture, where the aim of zero tolerance will take time to achieve. But he insists that the EU must not apply double standards to Turkey. Other applicants with implementation problems have been deemed ready to start talks, and nobody expects Turkey actually to join the EU for at least ten years.

Unwritten criteria

If the decision in December were based solely on the Copenhagen criteria, it would be hard to say no. Indeed, in its economic, political and judicial reforms, Turkey is in many ways ahead of Romania, which is hoping to join in 2007. But this being Turkey, other factors come into play.

For the Europeans, most of these factors are negative. The easiest to dispose of is the claim that Turkey is not in Europe. At the north end of the bridge across the Bosporus a sign welcomes drivers to Europe. But most geographers would say that one-tenth of the country's land-mass is already in Europe, as is most of its biggest city. Cyprus, which has joined the EU, lies to the east of Turkey's main population centres. In the 19th century, Turkey was a European power (Nicholas I of Russia dubbed it the sick man of Europe, not of Asia). Anyway, the EU has accepted Turkey's candidacy—and its geography has not changed.

Then there is size. This is not a criterion for EU membership. Indeed, Turkey could re-balance a club that has become skewed to the small. The EU, which began with three big and three small countries, now has six big and 19 small. The addition of Turkey, after Bulgaria, Romania and Croatia, would make it seven big and 22 small.

What really bothers existing members is that Turkey, which has 71m inhabitants and is growing, would be the biggest EU country, overtaking Germany in roughly 2020. Even so, its population would still be only about 15% of the EU total. Under the “double-majority” voting system in the draft EU constitution, it would have a weight equivalent to 14% of the total. That compares with Germany's weight, in an EU of 25, of 18%.

Turkey's poverty could pose other problems. One-third of the population is engaged in farming, which would be a big challenge for the EU's common agricultural policy. That, and its poverty, might mean big budgetary transfers from Brussels for many years—although most Turks say they are more interested in attracting foreign investment than in EU handouts.

But the biggest issue of all is Islam. Few people now insist that the EU is a Christian club, but the feeling that it should be is widespread, especially among Christian Democratic parties. September 11th, Iraq and the war on terror have all focused renewed attention on whether the EU is right to consider admitting a Muslim country. The arrival of the Justice and Development Party in government, so beneficial to Turkey's EU prospects in other ways, has not helped in this respect, for even within Turkey many suspect it of having a covertly Islamist agenda.

Mr Erdogan roundly rejects the label Islamist, yet his party has Islamist roots and its actions sometimes challenge Turkey's secularism. Mr Erdogan's first controversial target was rules that make it hard for graduates of religious training (*imam hatip*) schools to attend Turkish universities. In May he forced through a law giving all vocational-school graduates, including those from *imam hatip* schools, equal treatment with other graduates. The army chief of staff came out against the law, and the president duly vetoed it.

Mr Erdogan, who is himself an *imam hatip* graduate and whose four children also attend such schools, feels strongly that he is in the right. He says the army should not interfere with an issue that ought to be left to parliament; yet for now, he has dropped the law. He has acted similarly over the criminalisation of adultery. For weeks, he defended the plan, saying that the West was not “a model of perfection for everything”. But he has now withdrawn the idea in the face of fierce protests.

The suggestion that Turkey could be kept out of the EU simply because of its religion is not really tenable. This is not least because the Union already has 12.5m Muslims, and two other potential candidates for membership—Albania and Bosnia—are partly or wholly Muslim. It is also because, in a broader sense, Islam can be read not as a negative, but a positive for Turkish entry.

Ever since September 11th, the West has been anxious to avoid a “clash of civilisations”, and to show that democracy and liberal economics are compatible with Islam. One of the best ways to do this would

be to admit Turkey to the EU. As one EU foreign minister puts it: “letting Turkey in would be like D-Day in the war on terror”. By the same token, a no to Turkey would antagonise other Muslim countries, especially in the Arab world, who would see it as a slap in the face delivered by the West against Islam.

The naysayers

Despite these arguments, a strong body of opinion in Europe is against Turkish membership. The most negative attitudes are to be found in France, Germany, the Netherlands and Austria. Besides fretting about Islam, these countries worry about possible migration from Turkey and about cost.

In France, President Jacques Chirac's UMP party has come out against Turkish membership, though Mr Chirac has said he is in favour. In Germany the opposition Christian Democrats (CDU)and their allies in the Christian Socialist Union are against. The CDU leader, Angela Merkel, visited Ankara earlier this year and offered Turkey a special associate status instead of full membership. Mr Erdogan is not interested in any such status. In any case the Social Democratic chancellor, Gerhard Schröder, has come out for Turkish entry. So have most other EU governments, even the Dutch.

Until a few years ago, Greece was seen as an insuperable opponent of Turkish membership. But after the rapprochement that followed the earthquakes in Turkey and Greece in 1999, that has turned round: Greece is now a strong supporter of Turkey's EU goal, and its prime minister, Costas Karamanlis, is a close ally of Mr Erdogan's. Cyprus is less predictable, but the Greek-Cypriot government, already in bad odour in Brussels, is unlikely to court further calumny by vetoing Turkey. Most of the ten new countries that joined the EU in May claim to support Turkey. It is the existing EU 15, not the new countries, that fret most over Turkish accession.

The biggest reassurance to naysayers will be a promise that Turkish negotiations will take many years. Turks themselves talk of ten years, with a target date of perhaps 2015 for actual entry. Others think it will be more like 15 or even 20 years. In some ways, it is the travelling towards membership that counts, not the arrival. That reassurance alone should be enough to win Turkey its promised date for opening entry negotiations in December.

Yet there will still be a doubt over their outcome. Turkey's entry needs to be approved unanimously by the existing members. A new CDU-led government in Germany could upset the apple-cart. A failure to ratify the draft EU constitution might be seized upon as a reason to stop any talks with Turkey. Or somebody, perhaps Mr Chirac, might promise a referendum on Turkish accession to draw the sting of political opposition. It is little wonder that, although three-quarters of Turks say they favour EU membership, half say they never expect it to happen. Yet they are closer to it than anybody would have thought possible a few years ago.

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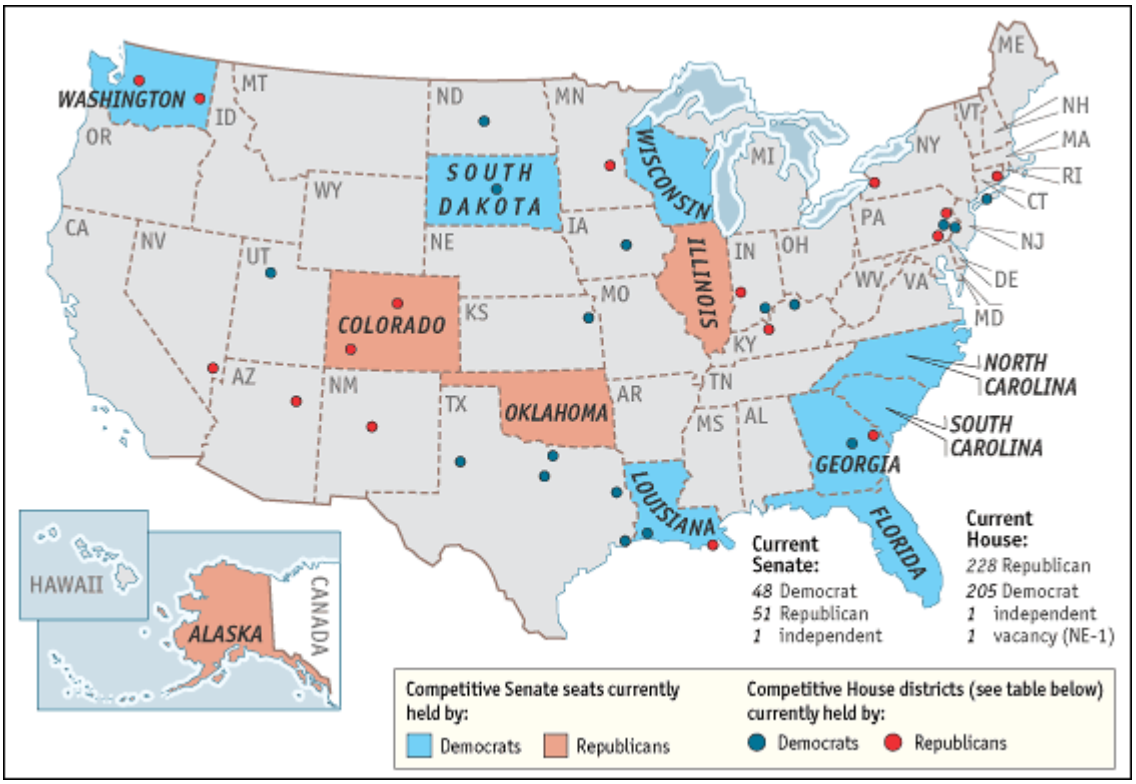
The congressional elections

Pyongyang on the Potomac?

Sep 16th 2004 | WASHINGTON, DC
From The Economist print edition



The battle for control of the Senate is tight; the battle for the House of Representatives is a travesty of democracy

THIS week observers from India, South Africa, the Philippines and elsewhere arrived—one hopes with a due sense of irony—to check up on the American election. In testing the operations of the country's democracy, they should perhaps look not only at particular flaws in the system, but at the system itself, especially the egregious practice of gerrymandering electoral districts for partisan gain. The contests for Senate seats (and the presidency) are vigorous. But if democracy means multi-party competition at the grass roots, America is not a full democracy in elections to the House of Representatives.

Only 29 of 435 House seats are listed as competitive by *Congressional Quarterly*. That compares with an average of 50 in 2000-02, and more than 100 in 1992-96. Larry Sabato of the University of Virginia has given up calling his list of close races the “nifty fifty” and now names it the “dirty thirty”. Charlie Cook, a political analyst, lists 33 (the dots on our map above) but puts the really close races at just 13. The current Republican majority is 22.

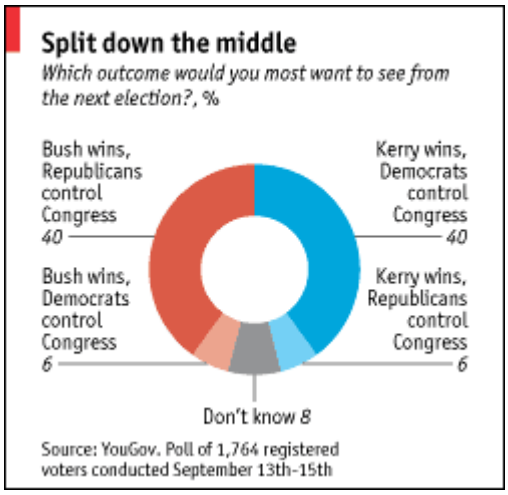
The sheer uncompetitiveness of most House races takes one's breath away. In 2002, four out of five of them were won by more than 20 points. The average margin was a stunning two to one, meaning some races had even bigger margins. Last time, 200 races had margins of 40 points of more and 80 were uncontested. So far this year, the uncontested figure is 68. In 2002, just four incumbents lost to challengers at the polls (another four lost in primaries). North Korea might be proud of the incumbent re-election rate: 99%. More than nine in ten Americans live in districts that are, in practice, one-party monopolies.

This year's election could be even less competitive than 2002. The last election was the first after the

decennial round of redistricting (the process of redrawing congressional boundaries to reflect demographic change). As such it should have been the most competitive of the ten-year cycle, with congressmen scrambling to appeal to new constituents.

True, some Democrats hope that 2004 will be a shade more competitive than 2002. Last time, many of their best challengers were put off standing by Mr Bush's then stratospheric approval ratings. This year's crop of challengers looks better. Celinda Lake, a Democratic pollster, says that in districts she has studied, 59-65% of respondents say they want a representative who will vote in Congress on behalf of their district, rather than the president's agenda. There is also some appetite for ticket splitting: our YouGov poll this week finds that 12% would like either a Kerry victory with Republicans controlling Congress or a Bush victory with Democratic control (see chart).

This will surely only make a difference at the margin. Without a political hurricane blowing the Democrats' way, John Kerry's party stands no chance of recapturing the House. The large number of safe seats means congressional elections are anyway "sticky": small shifts in party support nationally make little difference to control of Congress. According to the Centre for Voting and Democracy, if Democrats were to get 52% of the vote (which would be quite an achievement) it would only reduce the number of their own vulnerable seats from 14 to 10.



To recapture Congress, calculates Michael McDonald of the Brookings Institution, Democrats would need 57% of the two-party vote, which seems extremely unlikely. It is true that no one saw the 1994 Republican landslide before it happened either. But, as Rhodes Cook, a non-partisan election analyst argues, such a result in a presidential year would imply a landslide at the top of the ticket—and there is no sign that Mr Kerry is that popular.

On top of this, Democrats face a pro-Republican bias in congressional voting. The Democratic base lies in big cities. There, they pile up huge majorities. Republicans are more evenly spread out in suburbs, small towns and the countryside. According to Gary Jacobson of the University of California, San Diego, every district in which the presidential candidate piled up 80% or more of the vote in 2000 was Democratic. Almost twice as many of those districts where the candidate won with less than 60% of the vote were Republican ones.

Competitive House seats
2004 election

Currently Democratic districts: Georgia 3rd, Indiana 9th, Iowa 3rd, Kansas 3rd, Kentucky 4th, Louisiana 7th, New York 1st, North Dakota (at large), Pennsylvania 13th, Pennsylvania 17th, South Dakota (at large), Texas 1st, Texas 2nd, Texas 17th, Texas 19th*, Texas 32nd*, Utah 2nd

Currently Republican districts: Arizona 1st, Colorado 3rd, Colorado 7th, Connecticut 2nd, Georgia 12th, Indiana 8th, Kentucky 3rd, Louisiana 3rd, Minnesota 6th, Nevada 3rd, New Mexico 1st, New York 27th, Pennsylvania 6th, Pennsylvania 15th, Washington 5th, Washington 8th

Source: The Cook Political Report *Brand new seats where Democrats are on the defensive

This geography is a big reason why Republicans control the House of Representatives, even when Democrats have won more votes. By gerrymandering to cram Democrats into a smaller number of super-safe seats while spreading Republicans into a larger number of "designer districts" which they win by 55%-60%, Republicans have consolidated this edge. According to Mr Jacobson, the number of safe Republican seats rose by 56 in 1992-2002, while the number of safe Democratic ones rose by only 16. The Republicans have just pushed through a particularly brutal round of redistricting in Texas (admittedly cancelling out decades of cheating by the Democrats) which should give them a net gain of three to six seats.

If you had any doubt that redistricting is stifling electoral competition, you need only look at the Senate, where the process does not apply. Of the 34 Senate races this year, a dozen could change hands.

A few weeks ago, the Democrats thought they had an even chance of overturning the Republicans' effective 51-49 advantage in the Senate. They would do this by holding three of their five vulnerable southern seats (Georgia, Florida, Louisiana and both Carolinas); by holding all their own seats with

serious challenges elsewhere (South Dakota, Washington and Wisconsin); and by picking up Illinois and three Republican seats in the west (Alaska, Colorado and Oklahoma).

That was always a tall order. If the Democrats have looked bound to win Illinois, they have looked equally certain to lose Georgia. The eight closest races are all in states Mr Bush won in 2000—and Democrats are defending five of them. Optimistic Democrats talked of local factors pulling them through, such as bruising Republican primaries and popular local Democrats. In Alaska, for instance, the Democrats have a former governor up against a less experienced Republican who was appointed to the Senate seat by her father (who gave it up to become governor).

But the Democrats' job has become tougher. The Republicans have chosen their candidates well in Florida, South Carolina, Colorado and Wisconsin (see article). And Mr Bush's renewed polling strength has encouraged people lower down the ticket to jump on his coattails, whereas Mr Kerry is little help to southern Democrats.

To get to a majority of 51, the party has to win seven of the closely contested races (six if Mr Kerry wins and John Edwards casts the tie-breaker). Perhaps Democrats may hold their incumbent seats outside the south (though they are neck and neck in South Dakota). Perhaps they can win all three western states. But to win three southern states, let alone four, is an uphill struggle. The only thing one can say is that at least there will be a vigorous contest—unlike in the House.

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The Senate race in Wisconsin

Has Russ got a race on his hands?

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A maverick Democrat could face a tough challenge

HE IS clever, articulate, unpredictable and a burr under the saddle of the Bush administration. He was the co-sponsor with John McCain of a campaign-finance law that George Bush grudgingly signed; and he was the sole senator to oppose the Patriot Act. Yet Russ Feingold, the Wisconsin Democrat seeking a third term in the Senate, has so far avoided any full-frontal assaults from the national Republican Party.

The probable reason? Most folk in Wisconsin, with its tradition of mavericks in the Senate, seem to admire Mr Feingold's independence, and Mr Bush's main priority has been trying to win over a state that Al Gore won by fewer than 6,000 votes in 2000. The president seems to be doing well: the latest Gallup poll shows him with an eight-point lead among likely Wisconsin voters.

The gloves may come off, though, now that Mr Feingold's opponent in the general election is known—and now that local Republicans think they have a chance of winning. On September 14th, Tim Michels, a telegenic construction magnate, romped to victory in the Republican primary. A former army ranger, he made national security the centre of his campaign.

Mr Feingold seems only too happy to be attacked by Mr Michels over the Patriot Act. “My initial perceptions that the bill was seriously flawed are now widely held,” he says. As for the campaign-finance law, he claims it has been “100% effective in achieving what it was supposed to achieve”, a curb on soft money and phoney issue ads. And the victory on September 14th of a black woman in the Democratic primary for a congressional seat in Milwaukee should encourage blacks to turn out for him, too, in November.

Yet he has a fight on his hands. Mr Michels is rich: he pumped more than $800,000 of his own cash into the campaign (though his rival spent even more). Now he will argue that Mr Feingold is too liberal for Wisconsin. In 1998, the maverick Democrat barely held off a hard-hitting Republican. This race could be just as close.

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Dirty politics

The art of kebabbing

Sep 16th 2004 | WASHINGTON, DC
From The Economist print edition

Why George Bush is harder to attack than John Kerry

NEIL KINNOCK, an erstwhile leader of the British Labour Party, once told a BBC interviewer that he was not “going to be bloody kebabbed” into talking about alternative policies. How a Greek delicacy made its way into the political lexicon is not clear; but there has been an awful lot of kebabbing going on in American politics this summer.

In August a group called Swift Boat Veterans for Truth kebabbed John Kerry with two sets of advertisements, the first questioning his heroism in Vietnam, the second his record as an anti-war campaigner. A low blow perhaps, but the ads have certainly had an effect. A Gallup/CNN/*USA Today* poll shows just 38% of respondents rating Mr Kerry as honest and trustworthy. Frank Luntz, a Republican pollster, claims that the accusation that Mr Kerry “betrayed” his country with his comments about Vietnam has helped move undecided voters into the Bush camp.

Now it is Mr Bush's turn to experience a bit of kebabbing. A CBS programme, “60 Minutes”, disclosed memos that purportedly describe pressure from above to “sugar-coat” Mr Bush's record in the National Guard after his commander had ordered the young pilot to be grounded for failure to fulfil his obligations. The programme also broadcast an interview with Ben Barnes, a Democrat and former lieutenant-governor of Texas, who claimed that he had helped Mr Bush to get a spot in the Guard in response to pressure from certain well-connected Texans.

This was tame stuff compared with Kitty Kelley's new book, “The Family: The Real Story of the Bush Dynasty” (Doubleday). The most scorching of a large number of incendiary claims is that Mr Bush snorted cocaine more than once at Camp David when his father was president.

Will these scandals—or pseudoscandals—damage Mr Bush? There are three good reasons for thinking that Mr Bush is less vulnerable to attacks than Mr Kerry.

The biggest reason is that Mr Kerry has staked so much of his campaign on his Vietnam war record. The Democratic convention in Boston was one long hymn to Mr Kerry's heroism in that affair. The focus of Mr Bush's campaign has been his leadership in the war on terror.

Second, most voters have probably already discounted many of the accusations against Mr Bush. Everybody knows that he was born with a silver spoon in his mouth (if not up his nose); that he sat out the Vietnam war in the National Guard; and that he partied too hard as a young man before finding Jesus in mid-life. The voters will judge Mr Bush on his performance over the past four years, not on his self-confessed youthful indiscretions.

Third, the Republicans are better at fending off kebabbing. Mr Kerry was anything but swift in his response to the Swift Boat attacks. He almost seems to have gone out of his way to provide fodder for Republican claims that he is a flip-flopper. On September 6th he self-mockingly praised a restaurant in Pennsylvania because it has a set menu “for confused people like me who can't make up our minds”.

By contrast, conservatives have rushed to hurl the skewers aimed at Mr Bush back at his accusers. Conservative bloggers immediately tore into CBS's National Guard memos. The documents, they said, bore signs of coming from word-processors rather than Vietnam-era typewriters. CBS's Dan Rather is now desperately trying to defend the programme's credibility. His basic argument—that it is up to the bloggers to prove the documents are fake—does not augur well for the network.

As for Ms Kelley, the Republicans say she is a Democratic donor who maligned the sainted Ronald

Reagan as a date rapist and castigated Nancy Reagan as an adulterer who had an affair with Frank Sinatra. They have also obtained a pre-emptive denial from Mr Bush's former sister-in-law, Sharon Bush. Mrs Bush now says that she never told Ms Kelley that he snorted cocaine at Camp David. So though the cocaine charge is probably the most dangerous one for Mr Bush—he insisted during the last campaign that he had not taken drugs in the past 25 years—Ms Kelley's only proof that it ever happened is the word of a Bush relation who has since retracted the accusation.

Mr Bush could still be knocked off-course by a scandal. In a new book, “Chain of Command: the Road from 9/11 to Abu Ghraib” (HarperCollins), Seymour Hersh argues that the White House was repeatedly warned, in 2002 and 2003, that prisoners in military custody were being abused, but did nothing to stop it. This is far more serious than tittle-tattle about cocaine. But Mr Bush has one big thing going for him: most Americans—67% in a *Newsweek* poll—say that they like him personally. This ensures that much of the mud that is thrown at him, however justifiably, will fail to stick.

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The electoral week

On the trail

Sep 16th 2004
From The Economist print edition

New Economy

“That's a source that didn't even exist ten years ago: 400,000 people make some money trading on eBay.”

Dick Cheney explains why statistics do not measure economic growth properly. September 9th

Old Economy

“Fine-looking car. I used to have one just like it.”

George Bush likes a Lincoln Continental. Washington Times, September 13th

Florida again?

“How are you going to get a direct-mail piece? How are you going to get a phone call?”

A Republican strategist on the difficulties of running a get-out-the-vote campaign in hurricane-ravaged Florida. Newsweek, September 20th

The burdens of wealth

“[People] think that if you have money you have no feelings or conscience. But when people get to know me, if I was any of that, they wouldn't dare hug me, kiss me and speak to me in personal terms.”

Teresa Heinz Kerry, Harper's Bazaar, October issue

Meet the electorate

“Someone who is illiterate can vote. Someone who is intoxicated can vote...It's easy to say people with dementia shouldn't vote, but once you look at the complexity of the issue, the solutions aren't easy.”

Victor Henderson, a professor of neurology at Stanford University, on America's 4.5m Alzheimer's sufferers. Washington Post, September 14th

It's just not sporting

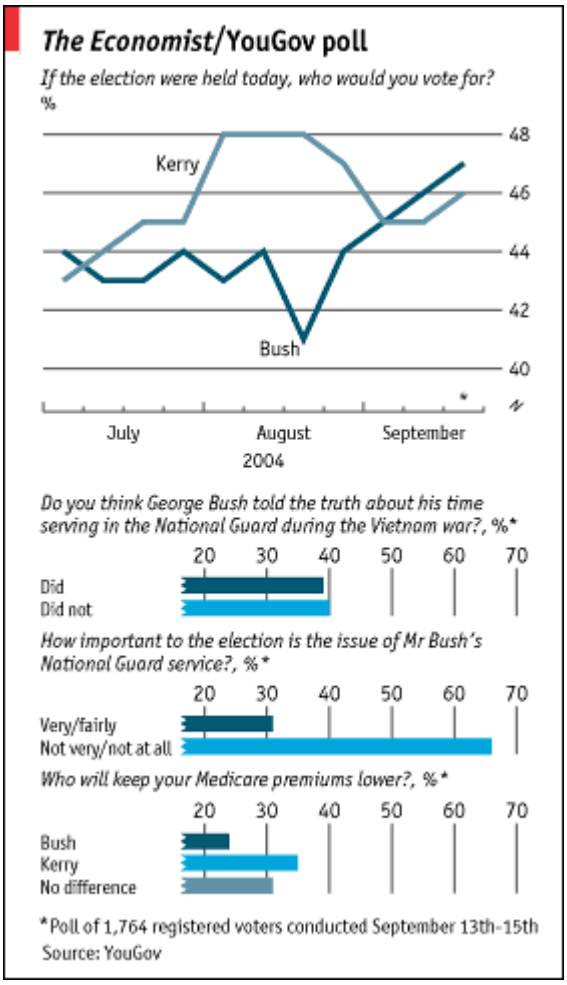
“I'm a hunter, and I respect it. I respect the 2nd amendment. But I never thought about going hunting with an AK-47.”

Mr Kerry on the ban on sales of assault weapons that expired this week after the Republican-controlled Congress failed to find time to debate it. Washington Post, September 11th

Luvvie of the week

“I don't give a shit if he likes our band, but I take it personally when a politician that doesn't represent my personal beliefs uses music that I poured my heart and soul into for his own personal gain.”

Dave Grohl of the Foo Fighters, objecting to Mr Bush using one of his ditties at a Republican campaign rally. Rolling Stone, September 16th



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Army recruitment

Signing on for Uncle Sam

Sep 16th 2004 | NEW YORK
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In a time of war, army recruiters are struggling to meet their targets

DANY ALVAREZ wants to join the army. A policeman in his native Dominican Republic, he moved to Manhattan's impoverished Washington Heights two-and-a-half years ago and now works in a car park. He covets the salary soldiers earn, and also misses law enforcement. But, though apparently fit, strong and bright, Mr Alvarez cannot realise his dream because he can hardly speak English.

Mr Alvarez's misfortune reflects a wider problem. Overstretched by wars in Iraq and Afghanistan, the army is supposed to grow by 30,000 over the next three years, taking it to well over half a million regulars and reservists. Yet, the regular army can barely find the 77,000 recruits it needs to sustain this growth. It should meet its recruitment target for this fiscal year, which ends on September 30th, but only by eating into next year's numbers. The army aims to have 30% of its annual target recruited and ready for basic training by the end of each previous year. But, for next year, less than 20% are in the pipeline.

The potential shortfall comes despite recently improved pay and conditions. Although it is considered poor taste to mention it in wartime, many American soldiers make more than they would working for a private company. After three years' service, they may be eligible for $52,000 in college fees. Last month, the Defence Department increased potential sign-on bonuses to $15,000. It also announced plans to deploy an extra 1,000 recruiters.

None of these measures is likely to be felt in the poorest districts where increasingly stringent army entry standards make many residents ineligible for army life. For example, recruits normally cannot have a serious criminal record, illegitimate children, more than two legitimate children, gang tattoos, or tattoos on their hands or faces. They must have a high-school diploma and be able to pass basic tests in English, maths and science. As of this year, wife-beaters are also barred.

In Washington Heights—in scenes reminiscent of the marine recruiting drive in Flint, Michigan in “Fahrenheit 9/11”—only one in 30 of the potential recruits interviewed meets these criteria. Many do not even reach the interview stage. According to First Sergeant Lindsey Streeter, the army's chief non-commissioned recruiter in Manhattan, rising standards have driven recruiters out of his own poor black neighbourhood of Washington, DC. “That saddens me,” he says. “Some of these kids not only want the army, they need the army.”

Sergeant Streeter fell short by 50 of his target of 365 recruits last year, and he is likely to fail by a similar margin this year. This is despite the fact that better-qualified recruits, motivated by patriotic feelings rather than money, tend to come forward in wartime. And this is also despite Sergeant Streeter's recent success in targeting well-qualified types on internet recruitment sites, a tactic he explains by saying, “If you're into blonde women, you're gonna to be where blonde women are.”

The recruiters in Washington Heights, a mostly Hispanic neighbourhood, say that only a small minority of their likely targets speak English, and the majority are illegal immigrants, convicted criminals, or both. Standing in the street beside a tray of leaflets bearing the legend “*Yo soy el army*”, Special Sergeant Felix Montes gives a demonstration of “hood recruitin'.” To those concerned by the rising death toll in Iraq, he cites New York's homicide figures. To those who consider the army uncool, he offers an alternative life of drudgery serving burgers and fries. When sexily-clad teenage mothers stop, as he says they often do, and ask for the love of a steady man, he winces, and politely declines.

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Absentee ballots

Let the voting—and bullying—begin

Sep 16th 2004 | WASHINGTON, DC
From The Economist print edition

A good idea which is open to widespread abuse

SOME voters in North Carolina aren't too worried about who trounces whom in the upcoming presidential debates. Nor will they be swayed by a last-minute revelation, such as the capture of Osama bin Laden. The state allowed them to start casting ballots on September 13th—50 days before the election.

Election day in America is now more aptly “election month-and-a-half.” Absentee voting used to be reserved mainly for the elderly, troops stationed abroad or travelling businesspeople. But thanks to changes in the law in recent years, 29 states now allow some form of early voting without an excuse. In the 2000 election, about 15% of Americans voted early; that figure is expected to rise to one in four in this election. In most states, voters post their ballots or drop them in at election offices; but in as many as 16 states, polling stations are set up well before election day.

Last time, both campaigns concentrated their get-out-the-vote push in the final days before the election. This time, it will be more spread out. America Coming Together, a Bush-hating group, plans to stage marches in some neighbourhoods that will lead voters to satellite polling stations. The conservative Business-Industry Political Action Committee has an ambitious plan to coax 20m employees in its partner corporations to download state ballot-request forms from a website.

Is this a good thing? In theory, early voting—in the comfort of your home at a time of your choosing—should help push up America's lousy turnout. But the evidence is mixed: many of the early birds in 2000 seem to have been people who would have voted anyway.

There are also worries about strong-arm tactics. In the 19th century, to counter the bribery and thuggishness of the electoral machines, America outlawed various “pressuring” tactics at polling places. But there is nothing to prevent the parties cajoling voters if they are sitting at home.

Both Democrats and Republicans are collecting the names of people who have requested absentee ballots from county clerks, and are checking them against their membership lists and the results of their canvassing. Now they will track who turns in their ballots (again a matter of public record) and hound the stragglers. Arizona Democrats used this strategy to help win back the governor's house in 2002. In many states, political parties are allowed to collect the completed ballots from people's homes. The old bosses of Tammany Hall are chuckling in their graves.

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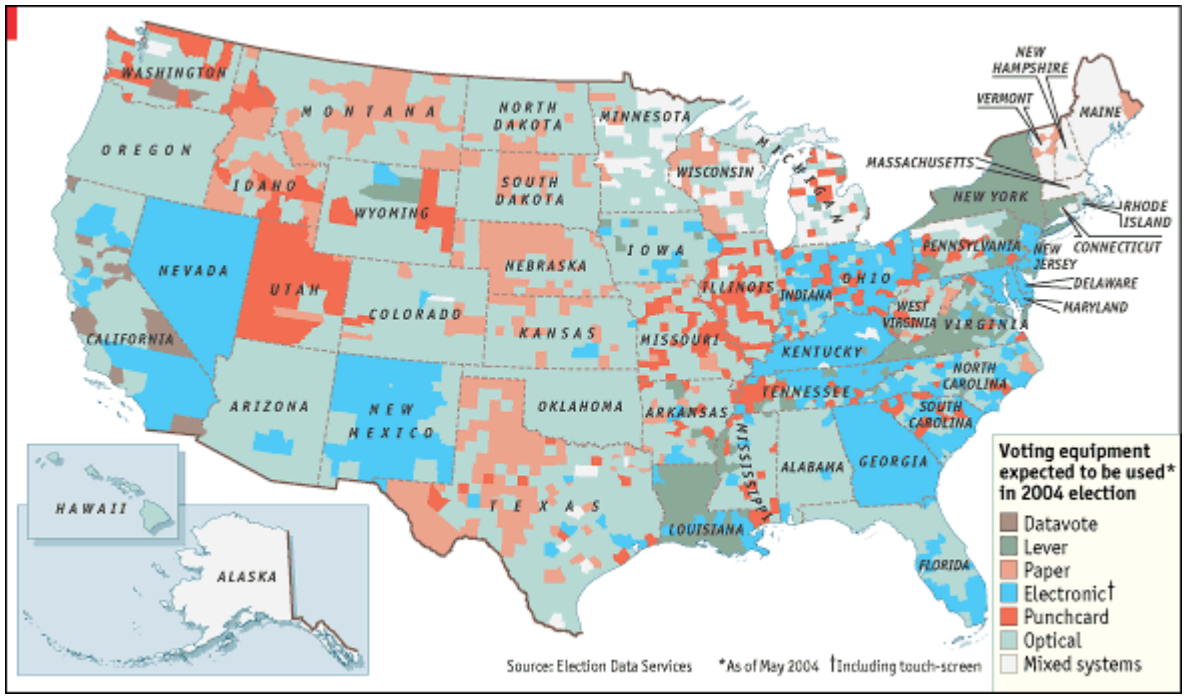
Electronic voting

The trouble with technology

Sep 16th 2004
From The Economist print edition



Can high-tech voting machines prevent a repeat of America's 2000 electoral fiasco—or will they make things worse?

IT IS not often that the dry subject of voting technology makes the headlines. It famously happened in America's presidential election in 2000, when the previously obscure differences between hanging, pregnant and dimpled “chads”—the small flakes of paper punched out of cards by mechanical voting machines—suddenly became a national crisis.

Many states subsequently invested in new, electronic voting machines, in which old-fashioned paper is replaced by a shiny touch-screen. The Help America Vote Act (HAVA), passed in October 2002, provided $3.8 billion of federal funds to encourage states to upgrade their voting machines. Electronic touch-screen machines have now proliferated throughout the United States (see chart). Around 50m voters, or almost a third of the electorate, will use such machines to cast their votes in this year's election, according to Election Data Services, a consultancy based in Washington, DC. This compares with around 12% in 2000. The proportion of voters using punch-card machines, meanwhile, will fall from 26% in 2000 to 12% this year.

Has this eliminated the risk of a Florida-style recount fiasco? Alas, no. Touch-screen machines have problems of their own, as another Florida election vividly illustrated last January. In a local election held on January 6th in parts of Broward and Palm Beach counties, 10,844 votes were cast, and Ellyn Bogdanoff won by 12 votes. Under Florida state law, a result this close triggers a manual recount. But no recount was possible, because there was nothing to count: the voting machines' only paper output is the final tally.

The lack of a paper trail has made new touch-screen voting machines hugely controversial. As Robert Wexler, a Democratic congressman, likes to point out, “a reprint is not a recount”. Critics also complain that there is no way to tell if the machines are faulty, insecure or rigged. Stories abound of voting machines producing curious results. In one case in Indiana, 5,352 voters somehow cast 144,000 votes.

In another case in Virginia, some machines subtracted votes rather than adding them to candidates' totals. Machines have broken down and been taken away, only to reappear with their seals broken and memory cards missing. When it comes to ensuring accuracy and accountability, casino slot machines in Atlantic City, New Jersey, get more government supervision than federal election voting machines.

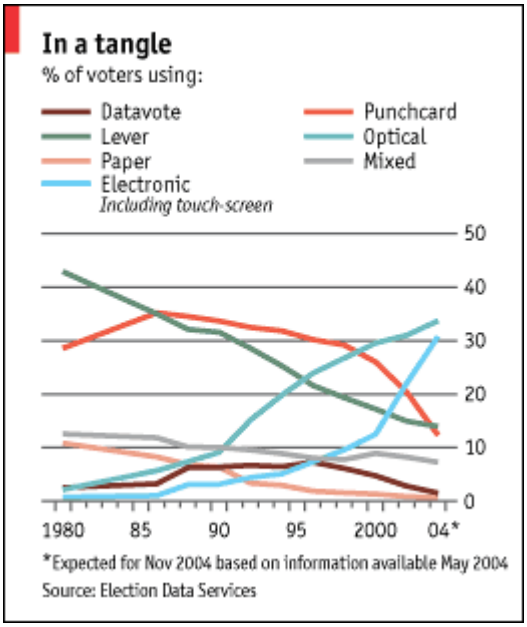
Many conspiracy theories have been fuelled by the activities of Diebold, one of the leading makers of touch-screen voting machines. Last year its chief executive declared that he was “committed to helping Ohio deliver its electoral votes to the president next year”, just as his company was bidding to supply voting machines to the state. That raised eyebrows. And the software for one of Diebold's machines, which leaked on to the internet, was found to contain numerous security flaws.

The joys of paper

The seemingly obvious solution is to require that all high-tech voting machines produce a paper output that can be manually recounted if necessary. The paper trail could be used to audit the performance of touch-screen machines, thus improving voters' confidence in the new technology, and would also expose any funny business. The ideal, says Rebecca Mercuri, an electronic-voting expert at Harvard University, is that there should always be a “voter-verified paper trail”.

This can be implemented in a number of ways. In much of America, for example, voters fill in paper ballots that are scanned by optical readers. (Optical-scanning machines are, in fact, currently the most widely used form of voting machines.)

The advantage of optical scanning is that voters mark a paper ballot in the usual way: in effect, just the counting is automated, and the paper ballots can be recounted if necessary. Optical scanners were recommended by the Caltech/MIT Voting Technology Project, an academic group set up after the 2000 election, as the best form of voting machine, though the group found that hand-counted paper ballots were more accurate than any machine-based system. The main drawback with optical scanners, according to Michael Alvarez, a political scientist at the California Institute of Technology and the co-ordinator of the project, is that they are difficult for the blind to use.



The best way to produce a voter-verified paper trail using a touch-screen machine, says Ms Mercuri, is to add a printer that shows a summary of the voter's choices behind a glass screen. If the voter agrees that the print-out correctly represents his choices, he presses a button to confirm, and the print-out drops into a ballot box. If he wishes to change his mind or notices an error, he presses another button, which marks the print-out as “void”.

Many vendors and election officials disagree with the idea of adding printers to touch-screen machines, for a number of reasons. Some machines are so old that they cannot be upgraded to produce a paper trail. Printers will be expensive, say critics, and may jam. Nonetheless, supporters of paper trails seem to be slowly gaining ground. Last year, California became the first state to require that all voting machines must produce a paper trail by 2006, though printers will not have been added to the state's touch-screen voting machines in time for November's poll. Washington state and Illinois have passed similar laws, which are also under consideration in at least 20 other states.

You can please some of the people...

The debate over the merits of paper trails is far from won, however, and has prompted many lawsuits. In Florida, election officials introduced a rule in April that exempted counties with touch-screen machines from the need to perform manual recounts in the event of a narrow election victory, as happened in January. They argued, in effect, that the touch-screen machines were so accurate that recounts were unnecessary. A judge has decided that this rule contravenes state law, but the state is likely to appeal.

Vendors of voting machines used to be opposed to adding printers, since it might have seemed like an admission that their machines were inaccurate. But they have now realised that the perception of accuracy is just as important. Alfie Charles of Sequoia Voting Systems, a maker of voting machines, points out that push-button voting machines, the predecessors of touch-screen models, were used for two decades without any problems. “But with the heightened sensitivity to electronic voting,” he admits, “many voters won't be happy unless there is a paper record.”

Many voters are not happy even then, however. In Venezuela, the existence of a voter-verified paper trail in the controversial recall vote in August did not stop the opposition claiming that the vote had been rigged in favour of the victor, President Hugo Chávez. In America, some activist groups are calling for a return to hand-counted paper ballots, on the basis that voting machines of any kind cannot be trusted.

Are the tallies produced by touch-screen or optical-scanning machines really accurate, even if there is a paper backup? Ms Mercuri says she would like to see the software used in optical-scanning machines made “open-source”, that is, available for inspection by anyone. In Australia, for example, the government open-sourced the software used in its voting machines to assuage fears that it might contain backdoors or security loopholes.

Testing is another area where more transparency is needed. At the moment, voting machines in America are tested and certified by three secretive companies. Although they are technically independent, they are paid to do the certification by the machine vendors, and sign contracts that commit them to secrecy. Executives at two of the firms have made (perfectly legal) campaign donations, mostly to Republicans. Ms Mercuri and other computer-security experts would like to see the certification and testing handed over to a government body, such as the National Institute of Standards and Technology.

Speaking to a congressional subcommittee in June, Michael Shamos, a computer scientist at Carnegie Mellon University, declared that the system for testing voting machines “is not only broken, but is virtually non-existent”. Gaining approval for a new voting machine or software upgrade typically takes a year, which suggests the testing companies are overstretched. This has caused some states to order uncertified equipment.

A further problem is that the standards used to test voting machines are widely regarded as obsolete, but the new HAVA standard has yet to be decided. Indeed, the technical committee supposed to draw up the standard was appointed only in June, nearly two years after the passage of the act. The committee now has nine months to draw up a standard, which will be announced next June. But since gaining approval for new machines takes a year or so, the earliest that certified machines will be in place is June 2006.

Furthermore, notes Mr Alvarez, the voting machines are merely one part of a much larger system that is now being overhauled. While most of the attention and lobbying has focused on voting machines, he says, HAVA also calls for the creation of centralised voter-registration databases in each state, for example, but there are no standards for the testing and certification of such databases. Worse, critics worry that these databases, which underpin the entire electoral system, will end up under the control of elected officials.

Gently does it

Rather than a “big bang” approach, which has prompted many states to rush to upgrade their voting systems, often making bad choices in the process, Mr Alvarez would prefer to see a gradual approach in which different voting technologies are tested on a small scale, with more data about their performance made public.

At present, election officials in America do not have to publish “residual” vote counts (the difference between the number of voters and the number of ballots cast in a particular race). Without such figures, it is hard to assess the relative accuracy of different voting technologies. Kimball Brace, the president of Election Data Services, wants more data scrutinised.

Given the chaos and controversy associated with electronic voting machines, how likely is this year's election to run more smoothly than the 2000 poll? The signs are not good. “The combination of new faces, new technology and new procedures is likely to lead to problems on November 2nd,” says Mr Alvarez. In addition, notes Mr Brace, this election will be very closely scrutinised. “Every election has some hiccups, but no one ever reported on them before,” he says. “Now they will.”

So the infamous paper chads may simply give way to digital ones. Electronic voting machines have already prompted dozens of lawsuits, and would appear to provide fertile ground for anyone who wishes to contest the result of a close election. In short, while high-tech voting machines are better than old-fashioned punchcard machines in theory, so far they seem to be worse in practice.

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Lexington

Yesterday's men, and tomorrow's

Sep 16th 2004
From The Economist print edition

Is the neo-conservative moment over?

ONE of the canonical texts of the American conservative movement is Richard M. Weaver's “Ideas Have Consequences” (1948). Four years ago, few people expected that ideas would have any consequences for the new Bush administration—particularly neo-conservative ideas. George Bush came across as a genial cowboy with more interest in ranching than reading. And the neo-cons—many of whom are secular Jewish intellectuals—looked like fish out of water in a party dominated by evangelical Christians and hard-headed business people.

Yet today there is little doubt that neo-conservative ideas have had profound consequences. It is an exaggeration to say that Mr Bush's Iraq policy has been hijacked by a neo-con cabal: Donald Rumsfeld is hardly one of them. But the brains at the American Enterprise Institute and the *Weekly Standard* have certainly made the running. They started making the case for regime-change in Iraq as early as the mid-1990s. And after September 11th they linked the case for removing Saddam to the wider case for democratising the Middle East.

The invasion of Iraq has a reasonable claim to be regarded as the neo-conservative moment in American foreign policy. But is that moment now over? Are the neo-conservatives destined to be sidelined even if Mr Bush is re-elected in November?

The neo-cons have had all manner of problems recently—not least the travails of Conrad Black, one of their leading sponsors. But their main problem is obvious: the war in Iraq has blown holes in their credibility. Whatever happened to those weapons of mass destruction? Or the garlands of flowers awaiting American troops? Iraq looks less like a beachhead for democracy than a failed state in the making, and the war less like a brave idea than a brainwave of think-tankers without military experience.

The Iraq debacle has inevitably attracted fierce criticism from both the Michael Moore left and the Pat Buchanan right. Now it is getting closer to home. In the current issue of the *National Interest*, Francis Fukuyama (a star in the neo-con firmament ever since he proclaimed “The End of History” in 1989) blasts the war wing of the neo-con movement—particularly Charles Krauthammer—for ignoring their movement's traditions. The neo-conservative movement, points out Mr Fukuyama, was founded on scepticism about social engineering—the conviction that grand schemes like LBJ's Great Society programme produce unintended, uncontrollable consequences. But when it comes to implanting democracy in Iraq, the neo-cons have swapped conservative scepticism for Wilsonian naivety. Mr

Fukuyama points to America's sorry record of nation-building, to the absence of democratic traditions in the Middle East and the neo-cons' failure to take the question of American legitimacy seriously.

Mr Krauthammer has reportedly written a withering rebuttal of Mr Fukuyama in the forthcoming edition of the *National Interest*. That might have been expected. But, in many ways, the amazing thing about the neo-cons is how uncontrite they are. Most intellectual movements would have been humbled by the neo-cons' confrontation with reality. But they seem as feisty as ever. The *Weekly Standard* blames the failures in Iraq on the Pentagon's miscalculations. Young Turks such as Max Boot urge America to find new dragons to slay in Iran.

The neo-cons have three things going for them. The most important is Mr Bush's unwavering support for the war. The Republican convention had one over-arching message: that the war in Iraq was part of the wider war on terror. John McCain argued that the sanctions regime in Iraq had been failing. Dick Cheney asserted that war against Iraq had persuaded Libya to abandon its nuclear-weapons programme. And Mr Bush reiterated the idealistic case for spreading democracy in the Middle East. Such idealism hardly seems to be justified by the daily news from Iraq, but so far John Kerry has made a hash of both criticising the policy and advancing an alternative strategy of his own.

The neo-cons also remain rich in intellectual creativity. At home, they have taken the lead in everything from designing “big-government conservatism” to opposing unbridled biotechnological research: witness the rather eloquent report from the President's Council on Bioethics, “Beyond Therapy: Biotechnology and the Pursuit of Human Happiness”. An aspiring Republican is still likely to get ideas out of the *Weekly Standard*, as opposed to merely discovering that abortion is a bad thing yet again in the *National Review*.

Intellectual fuel

Lastly, when it comes to conservative influence-peddling, the neo-cons still have no rivals. The paleo-conservative dream of the world's only superpower retreating within its own borders has not won over Mr Bush. Libertarians are anathema to the religious right. Old-fashioned Rockefeller Republicans are losing their political base in the north-east. Most other pressure groups focus on a narrow range of issues, such as reducing taxes or protecting gun rights.

This is not to say that everything in the neo-con garden is rosy. The neo-cons will get the blame if Mr Bush is defeated in November. If he wins, they could be in even bigger trouble should either Iraq or big-government conservatism implode.

Yet, in its own strange way, even Mr Fukuyama's spat with Mr Krauthammer points to yet another neo-con advantage: their extraordinary capacity to reinvent themselves. The neo-cons have changed shape dramatically since the 1960s; now Mr Fukuyama and other neo-con dissidents may change them once again. The lesson of the past four years is not just that ideas have consequences. It is that even the Republican Party, once ridiculed as the stupid party, needs intellectual fuel to keep it going. So far, for all their mistakes, the neo-cons still have no real rivals when it comes to supplying that fuel.

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Colombia's conflicts

The elusive god of peace

Sep 16th 2004 | GUATAPURÍ, NORTHERN COLOMBIA
From The Economist print edition

Security is much improved, yet some Colombians still face violence, especially from right-wing paramilitaries—as the plight of one Indian tribe shows

Get article background

TO PREVENT sickness and ensure peace, the Kankuamo Indians believe that they must pay tribute to their gods at sacred sites in their homeland in the Sierra Nevada de Santa Marta, a snow-capped massif where the Andes end abruptly on the Caribbean shore. Jaime Arias, the Kankuamos' elected governor, says that their world has been out of joint ever since the Spaniards came and the sacred sites began disappearing. Matters worsened after the arrival of the guerrillas of the Revolutionary Armed Forces of Colombia (FARC) in the 1980s, followed by their opponents, the right-wing paramilitaries known as the United Self-Defence Forces (AUC). The Kankuamos can no longer placate their gods. That, says Mr Arias, is why they are being exterminated.

The Kankuamos, who number some 6,000, have a big problem: their tribal reserve sits on strategically desirable territory on the lower slopes of the Sierra Nevada. They are sandwiched between paramilitaries who control Valledupar, a nearby cattle town, and units of the FARC higher up. Trapped in the middle, the Kankuamos are accused by each side of helping the other. Since 1986, 226 Kankuamos have been killed, including many of their leaders. In 2003 alone, 56 were slain. Mr Arias says that 55% of the murders since 1986 were committed by paramilitaries, 29% by the FARC and the rest by criminals.

Even in the Sierra Nevada, as in less remote areas of Colombia, security is at last improving. Earlier this year, President Álvaro Uribe sent extra troops to the area. Since February, 50 have been stationed in Guatapurí, a village of cinderblock houses and plots of coffee and sugar cane. The government now plans to set up a police station in nearby Atánquez, and to deploy a specialised mountain battalion permanently in the Sierra Nevada.

But the Kankuamos have yet to enjoy peace. Last month, Freddy Arias, the governor's brother and a human-rights activist, became the eighth Kankuamo to be killed this year; he was gunned down in the centre of Valledupar. No one has been tried for any of the killings since 1986. That prompted the Inter-American Court of Human Rights to rule in July that the government should do more to protect the Kankuamos, who it said were at grave risk.

The Kankuamos' plight is an example of how much still has to be done before Mr Uribe can claim victory for his “democratic security” policy. It also highlights how peace talks with the paramilitaries, who declared a “ceasefire” in 2002, have yet to halt their murderous conduct.

In the Sierra Nevada, the rival armed groups are battling for territory and access to the sea (to export drugs and import arms). Indian leaders say the paramilitaries have the backing of cattle barons and businessmen in Valledupar. They accuse the townspeople of wanting revenge after the FARC kidnapped and killed on Kankuamo territory in 2001 a former culture minister who had done much to promote the town's annual music festival.

The Kankuamo leaders and government officials both say that a local AUC group under Rodrigo Tovar (who calls himself Jorge 40) is behind most of the recent murders. The Kankuamos say that many of the killings took place near army posts; they claim that Jorge 40 is in cahoots with the army. That is denied by the army and the government; Jorge 40 says he is innocent of the killings. To the anger of the Kankuamos, Mr Tovar is one of the AUC leaders negotiating with the government.

Since Mr Uribe took office in 2002, violence has fallen steadily across the country. The army has cleared the FARC from much of central Colombia. It has fallen back on remote strongholds—such as the Sierra Nevada. Driving the rebels from such areas is hard. Despite the reinforcements, Lieut-Colonel Juan Carlos Figueroa, the army commander in Valledupar, has just 5,000 troops with which to control 3,000 sq kms (1,200 sq miles)—an area larger than Lancashire, containing, he says, some 1,400 gunmen of the illegal armies.

Lieut-Colonel Figueroa says he gets on well with the Kankuamos and has answered their pleas for protection. He says that they may have been targeted because they have taken the FARC's side. Mr Arias admits that some 30 Indians may have joined the guerrillas, but that they are isolated cases. The lieut-colonel insists that he pursues the AUC with as much vigour as he does the FARC. As far as he is concerned, there is no ceasefire with the AUC.

Across Colombia, the government has expanded its territorial grip, but in some places it has yet to win over the population. Some Indian groups reject the army's presence; they claim a right to remain neutral in the conflict between the elected government and the illegal armies, against whom they have used unarmed resistance. Some 40,000 Indians in Cauca, in the south, marched against Mr Uribe's policies this week. But the Kankuamos welcome the extra troops. Without them, they say, they would join Colombia's 2m or more internal refugees. Even so, there is an air of death and fear in their dirt-poor villages, where only a handful of residents remain. Their wish is for the killings to stop and, ultimately, for the army to leave. It will not be granted soon.

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Venezuela's referendum

Debates and dilemmas

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An opposition that cannot move on

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STILL licking its wounds after being trounced in a recall referendum on the presidency of Hugo Chávez last month, Venezuela's faction-ridden opposition now faces a dilemma. The Democratic Co-ordinator, the opposition's umbrella body, claims that the referendum was a gigantic fix by the National Electoral Council (CNE). If so, it must demand a change of referee before taking part in elections on October 31st for state governors and mayors. Absent those changes, many opposition voters may stay at home in disgust. But to boycott this vote would hand President Chávez yet another victory.

A split is possible. Parties defending local posts, such as the once-ruling Democratic Action, are likely to take part, come what may. Smaller parties can afford the luxury of abstentionism. To add to the Co-ordinator's woes, it must try to choose a single candidate in each constituency.

Even to some of its own supporters, the opposition's vociferous cry of fraud in the referendum looks partly like a way to justify its defeat. In an increasingly technical debate among statisticians, some more serious claims have been made. A study by two Venezuelan academics (Ricardo Hausmann, an economist at Harvard, and Roberto Rigobón of MIT) concluded that the CNE did not use a random sample of voting machines in a post-referendum audit watched by observers from the Carter Center and the Organisation of American States, which compared paper ballots with the electronic result.

The academics, whose study was requested by an NGO linked to the opposition, compared two different indicators of voter intent: signatures on the petition calling for a referendum and an opposition exit poll. Both are imperfect, but in unrelated ways—yet both were closely correlated with each other and not with the official result. The only credible reason for this, they argue, is fraud. They also claim that in the unaudited machines, opposition votes were some 10% below the level predicted by the signatures; in the audited machines, they were not.

In response, the Carter Center has run its own check on the data. It insists that the audit sample was random, and that there was a high correlation between referendum signatures and opposition votes. The results of the audit “accurately confirm” the official result, it concludes.

Tulio Álvarez, a lawyer for the Co-ordinator, claims other irregularities. He says that almost 2m new voters were registered after the official deadline had passed. In some districts, he claims, registered voters exceeded the total population, and that “phantom voters” numbered hundreds of thousands. He also suggests that there was two-way electronic traffic between the CNE and the voting machines; this would make it possible for alterations before each machine printed its final tally.

The pro-government majority on the CNE dismisses the fraud claims. The observers insist that the referendum was clean. In a final report, César Gaviria, the OAS's departing secretary-general, regretted that the opposition had not acknowledged Mr Chávez's victory. There is no proof that any fraud would have reversed the outcome (though it might have inflated Mr Chávez's victory). The opposition would do well to recognise that—even if it is right to distrust the electoral authority.

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Brazil's economy

Party poopers

Sep 16th 2004 | SÃO PAULO
From The Economist print edition

A rate rise keeps recovery on track

"WE HAVE climbed out of the pit," declared Luiz Inácio Lula da Silva in an interview published this week. Brazil's president is entitled to celebrate. After declining during 2003, the economy grew by 5.7% year-on-year in the second quarter this year, its fastest rate since 1996. Too fast, decided the central bank: on September 15th, to forestall higher inflation, it raised the basic lending rate by a quarter percentage point to 16¼%, the first increase since February 2003. It warned that more rises might follow. Critics accused the central bank of jeopardising the recovery. More likely, it may have prolonged it.

No one denies that higher prices for oil and other commodities have pushed up inflation, which is running well above the central bank's target for 2004 of 5.5%. Already since January the index has risen by 5.1%. Markets forecast inflation of 7.4% for this year and 5.7% in 2005, when the target is 4.5%.

Some Brazilians accuse the central bank of setting over-ambitious inflation targets, and of overreacting to a passing uptick in prices. Oil prices have fallen from their peak, the *real* has firmed against the dollar and growth may be slowing anyway. On a month-by-month basis, the rate of growth of industrial production slowed slightly in July.

Unfortunately, Brazil's economy need not grow very fast to stoke inflation. Although the unemployment rate is still above 11% and wages have barely begun to recover, firms are already passing on price increases. In some industries, such as paper and rubber, factories are working at close to full capacity. Estimates of the non-inflationary growth rate vary, but few are as high as the current rate of 5-6%. To sustain growth at that pace, reckons Mário Mesquita of ABN AMRO, a Dutch bank, investment would have to rise from 19% of GDP to at least 25%.

Higher interest rates are not the only answer to inflation. But the government has little enthusiasm for such alternatives as cutting spending, engineering an appreciation of the *real* or lowering import tariffs. The best way to boost growth involves structural reforms, such as promoting private investment in infrastructure and more flexible labour markets, but these take time. For now, the bank looks to have made the right call.

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Canada and the United States

Time to bury the hatchet

Sep 16th 2004 | CHICAGO AND VANCOUVER
From The Economist print edition

When will America accept that it has lost the softwood war?

FOR more than two decades, the export of Canadian wood to the United States has been the subject of a trade war. So it would be reckless to predict that peace is about to break out. Late last month, a ruling of a dispute panel of the North American Free Trade Agreement (NAFTA) demolished the United States' case for punitive tariffs, which is based on a claim that Canada's exports are subsidised. But Canadians are not celebrating yet.

The dispute is rooted in the two countries' different systems for managing forests. In the United States most are privately owned; timber prices are set by private contracts or auctions. In Canada, almost all forests are owned by the provinces, which grant long-term cutting rights and set stumpage rates (cutting fees) according to market conditions. To the American industry lobby, this government-led system with its "administratively set prices" confers subsidies.

In 2002, the United States Department of Commerce imposed countervailing and anti-dumping duties totalling 27% on Canadian imports. That forced Canada's lumber firms to shut some 50 mills and lay off thousands of workers. But despite the duties, Canada continues to supply a third of America's softwood market.

Canada denies subsidies are involved; it sees the duties as old-fashioned protection of a less efficient industry. In a series of rulings over the past two years, tribunals of the WTO and NAFTA have upheld Canada's argument. On August 31st, the NAFTA tribunal (with three American and two Canadian members) made a final, unanimous, ruling. Yet again, it rejected the claim that Canada's allegedly subsidised exports pose a "threat of material injury" to the American industry. It gave the United States International Trade Commission (ITC), a branch of the Department of Commerce, ten days to accept this.

Jim Peterson, Canada's trade minister, welcomed the ruling as "an important first step" towards "long overdue" free trade in lumber in North America. He said that the next step is for the United States to revoke the duties, refund the C$3.4 billion ($2.4 billion) paid by Canadian firms, and then discuss ways to avoid further disputes.

Fat chance. On September 10th, the ITC said it accepted the NAFTA ruling. But only grudgingly: it lambasted the tribunal for "overstepping its authority...and committing legal error". That seems to open the way for an extraordinary challenge to the ruling. A final decision may rest with the Office of the United States Trade Representative, which is reviewing the case. It is being lobbied by the mighty producers' Coalition for Fair Lumber Imports—for years, a driving force behind the American duties. American consumer bodies, however, are delighted. The National Association of Home Builders, for instance, called the NAFTA panel's decision a "victory" for free trade that would help make homes more affordable.

The consumer lobby has gained strength in recent years. The Bush administration is keen on home ownership. American homes use much softwood; its price has risen by around a third since January. Recent hurricane damage in the south-east has jacked up demand for timber. But for now, the Commerce Department insists the duties will remain in place. Canadians are left to wonder whether their neighbours' rhetoric about free trade and the rule of law is just that.

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Hurricane Ivan

Counting the cost

Sep 16th 2004 | PORT-OF-SPAIN
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Devastating—but it might have been even worse in the Caribbean

Reuters

Jamaica reels from Ivan's glancing blow

NATURAL disaster can wreck a small country. Hurricane Andrew cost America 0.5% of its GDP in 1992; Gilbert cost Jamaica 28% in 1988. Several Caribbean states were this week counting the cost of Hurricane Ivan's devastating progress. The most powerful Atlantic storm for a generation took more than 70 lives.

It might have been even worse. Grenada took a direct hit. Elsewhere, the damage was mitigated by a combination of preventive action and the storm's merciful course—at the last minute the eye swung just south of Jamaica before passing over Cuba's sparsely populated western tip.

Cayman Islanders took refuge in caves. Cuba's communist government said it evacuated 1.9m people (including 8,000 tourists); no lives were lost there. As *The Economist* went to press, some 2m people had left their homes in the Gulf Coast of the United States, and several cities were braced for flooding. Jamaica had told 500,000 to leave flood-prone areas ahead of the hurricane. Most stayed, scared of looting; 19 died.

Grenada's neighbours were first to aid it. Trinidadians shipped food and tarpaulins; their government will spend $5m on hurricane relief. In Grenada, roads need rebuilding, schools and hospitals need repair, and a new sports stadium (cost: $16m) is a mangled wreck. Aid donors will help, but the government may be forced to add to a debt that already totals 112% of GDP.

Jamaica has 19,000 homeless. The power company said that it would take up to a month to restore electricity throughout the island. Insured losses in the Caribbean may reach $2 billion (compared with $11 billion for Ivan's two predecessors, Charley and Frances, in Florida). Across the Caribbean, most government property and infrastructure is uninsured.

Budgeting for catastrophe insurance wins few votes; anyway, cover might be hard for disaster-prone countries to negotiate. Private businesses complain that commercial hurricane insurance neglects local variations in risk and building design. But there is a mass of data on storm tracks and storm damage, so risks can be quantified. Staff at the IMF and the development banks have called for innovative financial products to handle small-country disaster risk. That might be something for the reinsurance wizards in Bermuda to think about, and the bankers in the Caymans—when they emerge from their shelters.

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Hong Kong's election

Suffrage on sufferance

Sep 16th 2004 | HONG KONG
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AP

Having clamoured for democracy, Hong Kong misses a chance to vote for it

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ANYONE watching events in Hong Kong over the past year would have expected the territory's voters to deliver a fiery endorsement of democracy at their September 12th elections. But they would have been wrong: the pro-democracy candidates withered at the polls, winning but a modest victory that left supporters of the government in Beijing triumphant.

In the run-up to the poll, China's government had seemed to do much to galvanise the pro-democracy vote. In April, it outraged many by refusing to allow elections for Hong Kong's chief executive, and more democratic elections for its Legislative Council (the parliament, or Legco) in 2007 and 2008. This contravened the spirit of the Basic Law, the former colony's mini-constitution. The authorities had also been implicated in efforts to tarnish pro-democracy candidates; one aspirant was detained for dallying with a prostitute on the mainland. On July 1st, both this year and last, half a million people marched through the island to protest against a relentless erosion of their civic rights.

These signs of heightened political consciousness were reflected in Sunday's polls. Voter turnout hit a record high of 55.6% and the pro-democracy parties garnered 60% of the popular vote, up three points from 2000, according to Ivan Choy, an analyst at the Chinese University of Hong Kong. But this did not translate into the expected increase in seats for the Democrats in the 60-seat Legco. They gained three new seats, giving them a total of 25: less than the 27 seats most pundits had predicted, and well short of their goal of winning an outright majority.

At the central counting station on September 13th, Martin Lee, the generally restrained Democratic Party candidate, held his head in his hands and, despite having retained his seat, appeared close to tears. “Don't congratulate me,” he said. “This is a very sad victory. We didn't do as well as we wanted. I can't speak any more.” Ronny Tong, a Democrat who won in his New Territories East constituency, sounded similarly depressed: “I don't think there's a great deal to celebrate.”

The territory's lopsided electoral system was partly to blame. Half of Legco's seats are returned by

generally pro-Beijing business groups and professional associations, via so-called functional constituencies, which represent just 6% of the total votes cast. Though these constituencies voted surprising heavily for the Democrats, giving them seven seats, Mr Tong calls them “a major obstacle to democracy”. But even in the geographically-based constituencies, a complicated proportional representation system means that on Hong Kong island itself, for example, the pro-government camp won three of the six available seats despite getting less than 40% of the votes.

The Democrats also made tactical errors. On Hong Kong island, a last-minute decision to rally support behind Mr Lee (who was perceived to be in danger of losing) saw him comfortably re-elected, but probably contributed to another Democrat, Cyd Ho, failing to regain her seat. “We messed up our own campaign,” said Mr Tong. “Everyone was desperately worried for Martin and overcompensated.”

Nor is there much else cohesive about the Democrats; many share nothing but blind opposition to anything proposed by the government. Alongside moderate politicians, such as Mr Lee and Audrey Eu, are more radical critics of the government in Beijing, like Emily Lau and Albert Cheng, a former radio chat show host. Then there are the rank radicals. The unexpected election of Leung Kwok-hung, better known as “Long Hair”—whose other main claims to fame are his Che Guevara T-shirts and rants against the chief executive, Tung Chee-hwa—suggests that many voters treated both the election and the toothless Legco as a joke.

While the Democrats turned off and titillated voters with their mixed messages and sex scandals, the main pro-Beijing party, the Democratic Alliance for the Betterment of Hong Kong (DAB), appeared to have learned from its defeat in district council elections in November. Its message, that not annoying China would be good for stability and thus for business, clearly appealed to many. “If Hong Kong does not rely on the support of China, it is finished,” said one voter outside a polling station. A teacher who voted for Rita Fan, a pro-Beijing candidate, agreed: “China is a big country and Hong Kong is small. Striking a balance is good for Hong Kong.”

Such sentiments, however shortsighted, point to the underlying reason why outrage on the streets did not translate into a sweeping victory for the Democrats at the ballot box. A sizeable minority of Hong Kong's citizens, some 40% or so, remains more interested in economic prosperity than political freedom—despite many attacks on the latter from north of the border over the past year.

This will no doubt give comfort to China's leaders. The mainland government's mild reaction to the result—with lavish irony, it said the poll showed that Hong Kong's people were “masters of their own house”—suggested it was happy with it. As Choy So-yuk, who was unexpectedly re-elected for the DAB, said: “The more Legco members who are accepted by Beijing, the better for Hong Kong. We will [now] have less consternations over the issue of universal suffrage.” If that were true, China would not need to take dramatic steps to rein in Hong Kong's political freedoms; small steps would suffice. Emboldened by the election result, it is unlikely to send an olive branch to its chastened opponents. It may well, for example, continue to back the inept Mr Tung, and use him to reintroduce the anti-subversion legislation that sparked the July 2003 protests. “Beijing will be relieved,” said Mr Choy. “The Democrats have been swept under the carpet.” Sadly, this election may mean that, for now, democracy in Hong Kong has been swept aside too.

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Indonesia's election

Strangely calm

Sep 16th 2004 | JAKARTA
From The Economist print edition

A turbulent land enjoys a peaceful poll

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Reuters

Mr Susilo displays gravitas

THE first two elections held in Indonesia this year were jolly affairs. For a month before both the parliamentary polls in April and the first round of the presidential election in July, campaign workers draped their towns with bunting and plastered colourful stickers onto vehicles. The candidates criss-crossed the country, singing as well as speaking, often accompanied by dancers. By contrast, the campaign for the second round of the presidential election, on September 20th, lasted only three days. There was no singing or dancing, or even rallies—just three “dialogues”, during which dour panellists quizzed the two candidates about their policies. Despite its relative mundanity, however, the latest election is the most important and the most fiercely contested yet.

The vote pits Megawati Sukarnoputri, the incumbent, against Susilo Bambang Yudhoyono, a former general and minister. Ideologically, there is little to separate the two candidates. Both have pledged to boost Indonesia's feeble economy by cracking down on corruption, overhauling the unpredictable commercial courts and wooing investors. Both insist they will quell separatist movements in restive provinces like Aceh and Papua, and put an end to Indonesia's long and bloody sequence of terrorist attacks. Both are somewhat vague on how they will do this, and both have patchy records. But, judged on their performance in the dialogues at least, Miss Megawati appears by turns hapless and complacent, while Mr Susilo has an air of gravity and confidence.

No wonder: Mr Susilo seems to be a shoo-in. The latest opinion polls have him leading Miss Megawati by a margin of over 30 points. He beat her into second place in the first round by 33% to 26%. The Prosperous Justice Party, which is said to be Indonesia's most disciplined political outfit, has endorsed Mr Susilo. The parties backing Miss Megawati, although bigger, are generally disorganised and unruly. Many members of the country's biggest party, Golkar, are in open revolt over their leaders' decision to endorse Miss Megawati. The chattering classes of Jakarta, having concluded that Mr Susilo has the election locked up, are already discussing the next government's likely composition.

But there are reasons for caution. For starters, almost a tenth of the electorate remains undecided, according to the pollsters. Furthermore, in the first round, the opinion polls overstated Mr Susilo's support by over 10%, and understated Miss Megawati's by even more. Her unexpected surge came chiefly from rural areas in Java—where Golkar's creaking party machinery may yet turn out even more voters for her.

Miss Megawati has also cunningly exploited her incumbency. While election regulations have limited Mr Susilo to three days' campaigning, she, as president, has been dashing about the country for several months, glad-handing local dignitaries and opening shiny new amenities. The government has also been doling out soft loans, and recently unveiled a generous new budget. Before the first round, a provincial police chief was caught ordering his subordinates to back Miss Megawati; Mr Susilo's supporters claim that such shenanigans continue, although they cannot prove it.

Whatever the reasons, Miss Megawati's support has been creeping upwards, while Mr Susilo's has been slipping back. Even Mr Susilo's advisers acknowledge that the election will be much closer than the polls

suggest.

But it still looks likely to be peaceful. At the beginning of the year, Indonesia's pundits were united in their gloomy predictions of election chaos. After all, the country reverted to democracy only in 1999, following a long period of authoritarian rule. It had never held a direct presidential election before. Its electoral commission was meanwhile bogged down in logistical delays and bureaucratic wrangling. Yet the first two polls were marred by only minor glitches. There has been little election violence, and not a single fatality during the three campaigns. Less than a decade ago, democratic elections in Indonesia were nothing but a pipe-dream. Now they are becoming routine.

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Pakistan

The president's old clothes

Sep 16th 2004 | LAHORE
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Musharraf may keep his uniform

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AP

The face of Pakistani democracy

SURPRISING no one, Pervez Musharraf, Pakistan's military ruler, appeared to signal on September 15th that he will not trade his uniform for civilian weeds by the end of this year, as he had promised. A statement to that effect was made by the information minister, Sheikh Rashid Ahmed, and then retracted: the minister said he was speaking in hope, not expectation. But, many signs suggest, Mr Musharraf will indeed remain a military man.

In June Mr Musharraf sacked his prime minister, Zafarullah Jamali, after, among other sins, he assured the nation that the general would return Pakistan to the civilian rule he abruptly ended with his 1999 coup. A raft of pre-emptive measures followed. In a televised interview, Mr Musharraf made the ludicrous claim that 96% of Pakistanis wanted him to remain president and army chief. A gang of toad-eating politicians in Punjab this week begged Mr Musharraf to retain his dual role, “in the national interest”.

Mr Musharraf promised to do otherwise late last year under pressure from his main domestic ally, an alliance of Islamist groups called the Muttahida Majlis-i-Amal (MMA). Since it includes fundamentalist and anti-American groups, with medieval social policies, not all the MMA loves democracy. But nor does it like being ruled by soldiers like Mr Musharraf, as Pakistan has been for much of its independence. Mr Musharraf's main foreign ally, America, is less concerned by his uniform. Having embraced him as an ally shortly before it invaded next-door Afghanistan, the Bush administration considers him an irreplaceable friend in a hate-filled region.

In a sense, that is true. But only because, with America's patronage, Mr Musharraf has co-opted or banished his rivals in Pakistan's secular opposition. Hence his chumminess towards the MMA: he helped it wrest two provincial governments from the mainstream opposition. To ensure it keeps them, the MMA may not rage too loudly against Mr Musharraf's broken vow, despite talk that some of its members may declare a *jihad* against him. As long as Mr Musharraf stays tough on those already trying to kill him—al-Qaeda and its affiliates have twice tried to blow him up—he can count on America's support.

Mr Musharraf may have calculated rightly that to take off his uniform would, sooner or later, be to forfeit power. America tends to forsake its pet dictators. And the example of Pakistan's two civilian leaders of the 1990s is discouraging: they were both chased into exile, after presiding over shambolic kleptocracies bedevilled by interfering generals. But if, to Mr Musharraf and to those abroad, his refusal to adopt mufti is inevitable, to many in Pakistan it is deeply depressing.

Divided by tribe, wealth and religious sect, Pakistanis often seem to share little but a waning enmity towards India, the sacred spring from which the army draws its strength. India, meanwhile, has grown richer and, at least in some corners, far less bothered about its pugnacious neighbour. At a recent cricket match between the two countries in Lahore, Bollywood stars strutted for a delighted mob. Pudgy businessmen from both nations mingled and chattered. Then suddenly, on a distant balcony, Mr Musharraf emerged dressed for combat, and stood rigid as he gave his salute. To at least some observers, he looked slightly ridiculous.

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India's economy

Back to earth

Sep 16th 2004 | DELHI
From The Economist print edition

The new government has to cope with higher prices and slower growth

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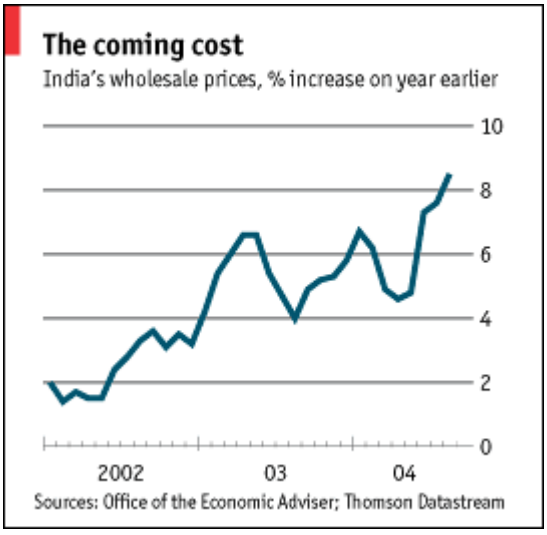

BEFORE general elections in April and May, India's government advertised the country's "shining" economic success. The economy was growing at more than 8% a year—on the threshold, the government said, of a golden age that would see India emerge as a world economic power. That rang hollow in much of rural India. The election delivered a new government, led by the Congress party. It inherited an economy that is still growing fast. But the "shining" moment has passed.

Last year's rapid spurt of growth was always going to be hard to repeat. It owed much to agriculture, where a heavy monsoon saw output rise sharply after a serious drought in 2002. This month, India's planning commission admitted the arithmetically obvious: its target of 8.1% average annual growth in the current five-year plan (April 2002-March 2007) is already out of reach. It forecast between 6% and 6.5% growth for this year, after a 6.4% average for the first two years of the plan.

Again, the monsoon will have an impact. This summer, the rains came late. Total rainfall is about 12% below the average. But that masks big regional variations. There have been floods in the north-east, while parts of the north-west and south are suffering drought. Crop production is expected to fall slightly this year. Agriculture accounts for nearly a quarter of the economy. Last year, it also accounted for more than a quarter of the increase in GDP. So, if agricultural output this year shows no growth, that would take nearly two percentage points off the growth rate.

The erratic monsoon is one reason—others are a lorry-drivers' strike last month and, especially, the high price of oil—why inflation has been climbing. So far this has been reflected less in consumer prices than in the wholesale price index, the most commonly used measure of inflation. By the end of August, it was showing an annual rise of 8.3%, the highest for four years.

The government has been trying to stem price rises by cutting import duties and excise taxes. But that has not eased fears that interest rates, at their lowest in three decades, will have to rise. That might choke investment, just as it was taking off. Manufacturing industry has been doing well and, for the past two years, exports have been growing at around 20% annually. But, because there was lots of spare capacity after a splurge in investment in the mid-1990s, there was little spending on new projects. This year, firms have stepped up borrowing and investment, raising optimism about future growth.

The central bank, the Reserve Bank, has not raised rates yet. But on September 11th it did tighten monetary policy slightly, by raising the amount of cash banks have to keep on deposit with it. Omkar Goswami, head of CERG Advisory, an economic research firm in Delhi, says firms are already delaying some spending plans, because of uncertainty over interest rates.

The economic team in the new government, led by the prime minister, Manmohan Singh, a respected former Reserve Bank governor and finance minister, has stressed the importance of raising levels of investment in India. At around 23-24% of GDP, this is at around half the level in China. The planning commission estimates that, for 8.1% average annual growth to be achieved, the proportion needs to be

increased to at least 28%. But with the central and state governments running combined budget deficits of around 10% of GDP, not much new public money is available. So private investment, including from foreigners, is badly needed.

Attracting private money, however, is complicated not just by the usual constraints—poor infrastructure, restrictive labour laws and bureaucracy. Investors are also waiting to see how Congress manages its relations with its coalition partners and “outside supporters” in parliament, especially the Communist parties. There have been public squabbles over policy. The left, enjoying a taste of power, is unlikely to topple the government. But, it might scare off the faint-hearted investor.

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The Koreas

Moving mountains

Sep 16th 2004
From The Economist print edition

Diplomacy's nuclear perils

Get article background

ANY government would be hard-pressed to shrug off a series of massive explosions and a mushroom-shaped cloud of debris as a spot of everyday earthworks. When the government belongs to North Korea, a modicum of disbelief is inevitable. Yet North Korea's claim that the two huge bangs detected late last week near its northern border with China marked the levelling of a mountain, to make way for a hydroelectric dam, may be true. Detectors failed to pick up any tell-tale signs of what was first suspected: a nuclear-weapons test. However, little else about North Korea's nuclear activity reassures. And now the pariah regime has found new cover for skulduggery in reports that South Korea has failed to declare nuclear experiments of its own.

This week, the North seemed to rule out another set of six-way talks on its nuclear moonlighting in the foreseeable future. Another round had been expected this month. That much was agreed (and only that) when America, South Korea, Japan, China and Russia last sat down with the North Koreans in June. At those talks, Bush administration officials had presented North Korea with tough proposals to end the nuclear stalemate, requiring the North to come fully clean about both its production of plutonium and its efforts towards enriching uranium, which it denies. But North Korea demands rewards merely for “freezing” its plutonium-making.

Diplomatic efforts to keep North Korea talking—with dollops more aid from China just for turning up—have got nowhere. It may have decided to await the outcome of America's presidential election in November, hoping for a Kerry administration and a softer line.

Yet other explanations are possible. There have been rumours that North Korea is preparing an October “surprise”. American satellites are keeping close watch on other sites away from last week's explosions; opinion is divided over whether the activity they have found indicates nuclear-test preparations. For their part, North Korean officials point gleefully to South Korea's recent admission to having experimented with both uranium and plutonium in the past. They say a nuclear arms race could be beginning in north-east Asia, which would be a convenient way to acknowledge North Korea's nuclear deterrent at last.

South Korea's admission to a nuclear past was bound to complicate the diplomacy on the peninsula. The South was thought to have had weapons ambitions in the 1970s but abandoned them under American pressure. These days there is little to compare between the two countries. South Korea's boffins now admit that four years ago they produced 0.2 grams of enriched uranium in a series of laser experiments that should have been reported to the International Atomic Energy Agency (IAEA); so should other work in the early 1980s to produce natural uranium metal (a small amount was used in the laser experiments) and a laboratory experiment to separate plutonium from spent fuel. North Korea, by contrast, boasts of its ability to produce pots of plutonium for bombs. And unlike the South, which recently signed up for tough new safeguards, it has never accepted full IAEA inspections.

All the same, this week, Mohamed ElBaradei, the director-general of the IAEA, called South Korea's reporting failures a “matter of serious concern”. Further inspections may yet turn up more troubling evidence. South Korea's explanation, that the uranium work was just a bit of harmless curiosity, doesn't ring true.

Its officials deny vehemently that they have weapons ambitions. But it will now be harder than ever to get North Korea back to the negotiating table.

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Japan

Silent death

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Swiftly and secretly, Japan kills a killer

MAMORU TAKUMA got what he wanted: an early death. Three years ago, Mr Takuma shocked Japan when he rampaged through a primary school in Osaka prefecture, entering classrooms and stabbing as many children as he could grab. He killed eight pupils, wounded 15 other people, including two teachers, and apparently never showed a flicker of remorse. After receiving a death sentence just over a year ago, Mr Takuma, who had a history of mental illness, asked to be executed as soon as possible. Unusually, on September 14th, his wish was fulfilled: Japan tends to leave prisoners on death row for years, and in some cases decades. But, in other respects, the sudden execution of Mr Takuma was typical of Japan's murky system of capital punishment.

The lives, and deaths, of Japan's condemned men and women are shrouded in mystery. Without warning, the justice ministry simply announces that an execution has taken place. It does not reveal the convict's name. But it does inform his or her immediate family, which is how it emerged that Mr Takuma was one of the two men executed this week.

Neither would have had long to prepare for death. A death-row prisoner is informed that his time is up on the morning of the execution. Often without so much as a farewell phone call to his family, he is then hanged. Forum 90, a collection of Japanese groups opposed to capital punishment, has been especially critical of Japan's sudden methods, which it says force prisoners “to live each and every day in dread of the day the execution will be carried out.”

Nominally, at least, Japan's criminal justice system stresses the virtues of atonement and remorse. But the precariousness of life on death row hardly seems designed to help condemned prisoners come to terms with their crimes. And if they did come to terms with them, they would struggle to express much remorse. Prisoners awaiting execution are denied most visitors, and their mail is heavily censored.

Most Japanese neither know nor seem to care much about how capital punishment is administered. So public opinion seems unlikely to change from its current state of passive approval of the practice. According to a 1999 survey, nearly 80% of those polled approved of it. Forum 90 protests that the survey question was awkwardly phrased. But even in response to a different question that the human-rights groups preferred, 57% of Japanese were still perfectly happy to “keep the current system in the future”.

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The Muslim world

The war for Islam's heart

Sep 16th 2004 | CAIRO
From The Economist print edition

Extremists declare that Muslims are the victims of the war on terror and must fight back. Liberals try to save their faith from being hijacked

THREE years after the attacks on New York and Washington, the anguish among the world's 1.2 billion Muslims has not diminished. Other Muslim fanatics have carried out other fearful crimes in the name of Islam. And non-Muslim armies have stomped into Muslim-populated lands to prosecute a war on terror that some perceive as a war on Islam.

The result is that ordinary Muslims find themselves confronted with increasingly fierce claims for possession of their faith. Rival narratives have emerged at either end of the extremely broad Muslim spectrum, and they could scarcely be more different. Expressing one view, a prominent Arab columnist decries the fact that while it is obvious that all Muslims are not terrorists, it is sadly apparent that these days nearly all terrorists happen to be Muslims. The spokesman for a *jihadist* group in Iraq dissents. Wherever you cast your eye, he writes in a recent posting to the internet, you find only one truth, which is that infidels are slaying Muslims “in every way, in every land, and with overspilling hatred.”

The two views produce radically different conclusions. With growing stridency, Muslim liberals are saying that it is high time for Muslims to act, to stop their faith from being hijacked and turned into a cult-like vehicle for a clash of civilisations. Their sense is that the violence of a radical minority is not merely ruining sympathy for just Muslim causes in such contested places as Chechnya and Palestine, it is beginning to threaten Muslims' peaceful coexistence with others everywhere.

For their part, the *jihadists* voice the conviction that sympathy for Muslim causes never existed in the first place. Islam, they say, is so imperilled that fighting for its survival is not merely right, but a sublime duty. And so vicious are its enemies that any means may be used to deter them, the more shockingly cruel, the more effective. Ultimately, they believe, Islam will triumph only if all foreign influence is chased from a vast, unified Islamic state.

To the non-Muslim world, there is little doubt which view is more realistic. Three years ago, it was only Americans who asked Why Do They Hate Us? The same question is now being asked by Indonesians, Spaniards, Turks, Australians, Nepalese, French, Italians, Russians and others whose citizens have fallen victim to *jihadist* “vengeance”. The puzzle is how so many Muslims could for so long remain oblivious to the extremism in their midst.

Egypt's leading newspaper, the government-owned daily *Al Ahram*, provided a clue recently. On September 1st, it relegated to inside pages the brutal massacre of 12 Nepalese kitchen workers by Iraqi guerrillas, who claimed to be “executing God's judgment” against “Buddhist invaders”. A day later, *Al Ahram* put on its front-page news that rioters in Katmandu, the Nepalese capital, had attacked a mosque—but did not explain what they were angry about. A slip, perhaps, but the omission reflected a pattern, repeated across the Muslim world, of harping on Muslim injury.

There is nothing abnormal in rooting for your own. American coverage of, say, Iraq, is hardly exemplary in even-handedness. The trouble comes with the cumulative effect of repeating a tale of Muslim victimhood, of amplifying it through mosque sermons and manipulating it for short-term political gain. All too many governments have found it convenient to direct their own peoples' grievances into offshore arenas, such as Iraq, and so deflect demands for empowerment closer to home.

Seeing the world through a lens of victimhood has grown into a comfortable habit. So it is that some Arab commentators have explained the kidnapping and murder of foreign civilians in Iraq as the work of American agents. The agents' aim, says Galal Duweidar, who edits Cairo's mass-circulation daily, *Al Akhbar*, is to “demonstrate the barbarism of Arabs and Muslims and so justify Washington's war on Iraq and its purported war on ‘terror'.”

Conspiracy as a way of life

Such conspiratorial views seem to reflect a need to sustain coherent plot-lines to explain what are, in fact, rather messy situations. America's occupation of Iraq must be seen to be just as wicked as Israel's occupation of the West Bank, or Russia's of Chechnya. Resistance to all these onslaughts must therefore be noble, however ugly its manifestations may appear.

The desire to paint Muslim resistance with glory leads to peculiar equivocations. Yusef Qaradawi, the most popular television preacher in the Arab world, says that while Islam distinguishes between soldiers and civilians in war, it is hard to make this distinction in practice. Killing prisoners is sometimes justified, he argues, but disfiguring their bodies is a sin. Adel al-Muada, an Islamist radical who is the deputy speaker of Bahrain's parliament, recently declared that while he personally condemned the attacks on New York and Washington, he could not condemn Osama bin Laden because there was “no proof” that he was responsible.

Such wilful blurring of lines is made easier by the way the war on terror has been conducted. The lumping of a range of movements that happen to have a Muslim colouring—some of them at root ethnic, some national, some indeed religious—under the single rubric of terrorism can perhaps be portrayed as “moral clarity”, but it tramples on the real grievances behind many of the causes.

Scandals at Abu Ghraib and Guantánamo have made it difficult to maintain that there exist universal notions of human rights, rather than particularist and discriminatory ones. America's record in Iraq is not pretty. The past week's imagery alone has included a bombed ambulance, a dead infant being removed from a shelled building, and the on-camera killing of an Arab television journalist.

Even so, the sheer nastiness of *jihadist* violence has begun to generate a powerful groundswell of angry Muslim opposition. The coincidence of the anniversary of September 11th 2001 with the horrific slaughter of schoolchildren at Beslan provoked a chorus of condemnation. This was not only against terrorism, but also against the clerics whose extremist interpretations support that terrorism.

Why, demands a former Kuwaiti minister writing in the Saudi daily *Al Sharq al Awsat*, have we not heard a single fatwa against Osama bin Laden, when Muslims fell over themselves to condemn Salman Rushdie for writing a “vapid” novel? Who has done more damage to Islam? Muslims must no longer remain silent, declares an editorial in the Egyptian weekly *Rose al-Yusef*; our fear of speaking out has become the terrorists' fifth column.

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Iraq's election

Voting and violence

Sep 16th 2004 | BAGHDAD
From The Economist print edition

Is a partial election really better than none?

CAN an election be held in Iraq's deadly atmosphere? Take just two incidents in central Baghdad in the past few days. American helicopters killed dozens of people in a rocket attack on a crowd that had gathered round an American army vehicle crippled by a roadside bomb. Then a car bomb went off outside a police station where would-be recruits were applying for jobs, killing over 50 people.

The prime minister, Iyad Allawi, and American officials insist that the promised parliamentary election in January is still possible—but maybe not everywhere in the country. The current insurgency is concentrated in certain areas of Baghdad and in the “Sunni triangle” north and west of the capital. American troops stay out of these areas, and even the police take their orders from the insurgents, so it is pretty hard to imagine government polling officials being allowed access.

This, say American and Iraqi officials, might not matter. Lieut-General Thomas Metz, the American ground forces commander, says that suspending the vote in such “cancers” as Fallujah would not affect the legitimacy of the election. Mr Allawi agrees that he would go ahead with a nationwide vote even if “terrorists” prevented certain towns from taking part. Some diplomats have suggested that suspending the vote might even act as an incentive to recalcitrant areas to improve.

But Grand Ayatollah Ali al-Sistani, Iraq's most influential Shia cleric, is a stickler for democratic form. Western diplomats are hopeful that he may be brought to see that an imperfect election is better than none, but his spokesmen still insist that it is the government's responsibility to provide the security necessary for full suffrage. And even if Mr Sistani does bless a partial election, others most certainly will not—particularly those whose support bases are designated no-vote zones.

One potential malcontent would be Muqtada al-Sadr, the radical Shia leader whose movement controls the predominantly Shia slums north-east of Baghdad. Mr Sadr agreed in principle last month to trade armed insurgency for peaceful party politics. But if his followers are blocked from voting, he will have ample incentive to call for rebellion again.

Even if an election is held, it may not offer voters much choice. American officials say that the main parties are discussing what officials describe as a “monster consensus list”: a slate of candidates put together by the seven anti-Saddam opposition groups that sided with America before the war, and have dominated Iraq's interim governments ever since.

The parties have reason to prefer co-operation to competition. First, they assume that if they can portray themselves as a unified force, rather than a bunch of squabbling partisans, they may be able to capture support from those Iraqis who long for stability, whoever brings it. Second, most of the parties have never fought each other, or anyone else, in anything close to an open vote. Their leaders may choose to stick with the pecking order to which they have become accustomed, rather than risk all to gain all.

But if the parties put together a sweeping alliance, the resulting parliament may not be much of a forum for Iraqis to air their grievances. A preview of how such an election might go was seen at last month's National Conference, charged with selecting an interim parliament. The parties drew up pre-cooked lists in Baghdad backrooms, leaving anyone who was not invited crying foul. The parliament they produced has so far been toothless. It was supposed to be a watchdog on the executive, but most of its members belong to the ruling alliance, and many of them do not even bother to show up.

There is still time for the government to seek political deals that might enfranchise its opponents. But Mr Allawi may not want to. The use of unrest as an excuse to intervene in elections is common throughout

the region: Egypt's Hosni Mubarak, for instance, is quick to shut down polling stations in Islamist strongholds.

If Mr Allawi follows this lead, Iraq could end up in a vicious circle. Those regions that are most alienated from party politics—the lawless Sunni areas to the west and the Shia slums of Baghdad—may be denied a voice in parliament, and thus become more alienated than ever.

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Israel

Sharon faces trickier foes

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The settler lobby takes up arms against its former patron

AFP

ARIEL SHARON, that confrontational old soldier-politician, is once again on the battlefield. But these days his adversaries are his former allies, not his lifelong Arab foes. The prime minister, the architect of settlement expansion, is now opposed by Israel's settler lobby fighting “the forced transfer of Jews from their homes” or, in other words, Mr Sharon's plan to dismantle all Israeli settlements in Gaza, and a handful in the northern West Bank.

The battle is fierce. Over the past few days, right-wing leaders have signed a petition calling the plan “a crime against humanity” and 40,000 settlers and their supporters have demonstrated in Jerusalem, carrying signs against “the dictator”. Settler leaders gave warning of “a war among brothers”, a known recipe for national destruction in Jewish history. Death threats have been thrown at Mr Sharon.

Interviewed this week for the Jewish New Year, the prime minister vowed to implement his “disengagement plan” next year. “The pain of the evacuees is understandable,” he said. “These are the best people, and they will be treated with the utmost love, care and consideration. But in my view, it is a necessary step.”

His calmer opponents charge him with twisting democracy. He has, they say, turned his back on pre-election pledges not to make any unilateral withdrawals without first “going to the public”, and they demand a referendum. On Monday, Binyamin Netanyahu, the finance minister and Mr Sharon's main rival, joined the referendum call. Though the prime minister has said that a referendum is “not on the agenda”, he has not ruled out the idea altogether, perhaps leaving room to manoeuvre if pressure mounts.

Mr Sharon is pushing his plan because he believes that it will protect Israel from external pressure for a deeper compromise. The modest withdrawal he envisages would, he contends, enable Israel to remain in the rest of the occupied territory for a long time, increasing its hold over “strategic” West Bank areas.

Thus his policy is two-pronged: to get out of Gaza while strengthening the West Bank settlement blocks by building new houses, plus Israel's security barrier. Facing international censure, and an Israeli judicial ruling, on the route that the barrier was due to take within the West Bank, Mr Sharon approved an amended route last week. In this new version, the fence will in some places move closer to the pre-1967 border separating Israel from the West Bank—but it will still encompass the main settlement blocks, where most of the settlers live.

The end of this month will mark the fourth anniversary of the *intifada* that erupted after Mr Sharon's controversial visit to Jerusalem's holy places. Though there has been a marked reduction in suicide attacks, the prime minister gave Israelis no hope of the war ending soon. As always, he saved his harshest words for Yasser Arafat, promising to find the right time and circumstances to remove him, “just like we found the timing to hit the Hamas leaders, Yassin and Rantisi.” Both men were assassinated by the Israeli army.

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AIDS in war and peace

The deadly dividend

Sep 16th 2004 | HUAMBO, ANGOLA
From The Economist print edition

AIDS can sometimes prosper when the guns fall silent

A TEENAGE sex-educator shows an attentive class of boys in an orphanage in Huambo, Angola's second city, how to fit a condom on to a wooden penis. She then bursts out singing “If you love to live, you wear a condom” and hands out packets of them. A nurse steps forward and talks about AIDS. The boys nod quietly.

Nobody knows how many Angolans are infected with HIV. According to UNAIDS, the figure could be anywhere between 2% and 10% of the population, which is lower than it is in neighbouring states. Health workers are hoping to prevent the epidemic reaching the high levels of the rest of region. But some of them fear that the peace, which has at long last taken over from Angola's years of civil war, could make their work even harder.

This is a controversial thought, at odds with received wisdom. The evidence is patchy and often contradictory. War can, and does, spread AIDS. Soldiers rape, infected refugees flee across borders, and desperate women turn to prostitution. A report to be published next week by World Vision, a relief group, shows that the fighting in the north of Uganda is dramatically pushing up HIV rates in the area.

But some researchers now believe that the peace that comes after a war can be even more deadly. They note that AIDS is at its most dangerous in countries that have long been at peace—Botswana, Zambia, Swaziland and South Africa— while in a number of countries that suffer, or have suffered, from protracted wars, AIDS has not taken much of a hold. Naturally, there are other reasons why this should be so, but the contrast is interesting.

Mark Sterling, who heads UNAIDS in southern Africa, argues that “war and the closure of borders reduces transmission of HIV”. This is not always so: in Rwanda women were gang-raped and many survivors were left with HIV. But in Angola, several decades of war destroyed roads and bridges so that people lost contact with outsiders: studies show that HIV rates are lowest in isolated northern Angola.

Mozambique, too, was cut off by war until 1992. Peacetime saw HIV rates climbing, as refugees and soldiers returned home. Angolans, whose peace was signed two years ago, say they are trying to avoid Mozambique's fate.

More research is needed to explain why AIDS can take hold when guns fall silent. The effects of war—orphans, broken families, economic collapse, poor education—probably make people more vulnerable to the disease, but those problems existed during the fighting too. Peacekeepers are sometimes accused of spreading HIV, as they were in Cambodia and Liberia. To prevent that, the UN now has more safe-sex programmes and tries hard to ban HIV-positive soldiers from serving.

Returning refugees are also blamed, often unfairly. Those returning to Angola from camps in Zambia might indeed bring back higher rates of HIV. But exiles tend to be well educated, and refugees in camps run by the UN are relatively healthy. Paul Spiegel, an AIDS expert for the UN's refugee agency, notes that a survey of 800,000 refugees in 20 camps in Kenya, Rwanda, Sudan and Tanzania shows that, generally speaking, the refugees have much lower HIV rates than their host populations.

The huge lack of reliable information makes it hard to know what steps can be taken to block the spread of the disease when a country passes from war to peace. A conference on the subject is to take place in Johannesburg next month. Providing basic health care and condoms, as Angola is trying to do, is as good a start as any.

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Russia after Beslan

The Kremlin's control freak

Sep 16th 2004 | MOSCOW
From The Economist print edition

AP

After the Beslan bloodbath, Russia's president grabs even more power

Get article background

"WHAT country will we wake up in tomorrow?" demanded a banner headline in *Komsomolskaya Pravda*, a daily that was once the official organ of the Soviet Communist youth movement. The best answer anyone can give, in the light of President Vladimir Putin's latest political moves, is that tomorrow's Russian state might look uncomfortably like yesterday's one. More clearly than at any time since the collapse of the Soviet Union, the spectre of absolute dictatorship seems to be inching closer, not fading away.

On September 13th Mr Putin stunned liberal opinion both in Russia and abroad by announcing a series of measures that will enhance the Kremlin's power and make life harder for dissenting voices. Inevitably, he justified them by citing the need to improve security after hundreds of adults and children had died in the school taken hostage by terrorists in Beslan.

Under the new measures, the governors of Russia's 89 regions will be chosen by the president (and then confirmed by local assemblies), instead of being directly elected. Mr Putin also plans to abolish the first-past-the-post contests that currently fill half the seats in the parliament. In future, the entire Duma will be made up from party lists, which will squeeze out independent legislators.

The trend of strengthening the Kremlin's control has been obvious ever since Mr Putin became president in 2000. He had already trimmed the wings of the governors by removing them from the Federation Council, the upper house of parliament; by appointing presidential emissaries to watch over them; and by centralising the appointments of regional police chiefs, prosecutors and security-agency heads. As for the Duma, it is already dominated by pro-Kremlin parties.

To many, Mr Putin seems to be exploiting Beslan to satisfy his appetite for power. Even if he really does want to correct the failures that the shootout exposed, his political tinkering will not help. On September 15th, America's George Bush expressed his concern about the undermining of democracy in Russia in unusually direct terms. But the Kremlin rejected all outside criticism.

As more details about Beslan story emerge, it is becoming clear that the lessons of previous hostage crises had not been learned. Local troops and authorities, including the FSB security service, were largely left to fend for themselves, with almost no federal officials lending support or experience. A haphazard

approach to crisis management meant that under-equipped troops lost control of the situation to armed civilians. According to one report, some troops had to ask the civilians for spare bullets. Some federal orders fell on deaf ears.

Afterwards, agencies scrambled to shirk responsibility. This led to a bewildering range of official statements about how the terrorists got to the school, how many there were, and where they were from. An initial claim that there were ten Arabs among them, which Mr Putin seized on to link the attack to "international terrorism", seems to have evaporated into thin air.

Does the president understand these weaknesses? Some other steps he is taking are designed to give the impression, to Russia and the world, that he does. He promised an inquiry into Beslan. He also promised a nationwide crisis-management system; a budget increase for the army and security services (an extra $1.7 billion had already been pledged last month, after two aircraft were blown up by suicide bombers); stiffer punishments for corrupt officials who give out false passports; a nationalities ministry to keep an eye on ethnic issues; and a federal commission for the northern Caucasus, whose main job will be "the improvement of the standard of living in the region."

To Putin-watchers, the last item does signal a shift. Though he still blames foreign terrorists for stirring up trouble in the northern Caucasus, he also admitted in this week's speech that "the roots of terror lie in the continuing massive unemployment in the region, and the lack of an effective social policy". He dwelt on that issue at length during a meeting of nearly four hours with foreign experts and journalists, just two days after the Beslan siege.

"Maybe he is only now realising that the poverty and social problems are the roots of these conflicts," says Fiona Hill of America's Brookings Institution, who was at the meeting. Moreover, says Ms Hill, Mr Putin and his advisers understand how corruption has rotted the security services to the point of uselessness; they talk in private as well as in public of the need to "clean things up at the local level". But there is no plan for how to do it. "This is an opening for the West," she believes.

Indeed, to her and some others, Mr Putin's barrage of measures is an instinctive reaction of a leadership that fears it has lost control. Many of his moves look like frantic window-dressing. The nationalities minister will be Vladimir Yakovlev, an ex-governor of St Petersburg and one of Mr Putin's political foes. "He couldn't have chosen someone who knows less about the subject," says Rustam Arifjanov, editor of *Natsional*, a magazine about Russia's ethnic groups.

Without a real anti-corruption strategy, says Alexander Belkin at the Council for Foreign and Defence Policy, a Moscow think-tank, "making changes to the structure of command at the top is worthless." Mr Putin is trying to regain the upper hand in the northern Caucasus by sending his own Kremlin chief of staff, Dmitry Kozak, to oversee the region and the new federal commission. But Mr Kozak was also in charge of a grand plan for government administrative reform, and that now risks falling by the wayside.

As for the changes in the political system, they could eventually prove counter-productive, as well as irrelevant in the fight against terror. The more that Mr Putin consolidates power, the more he becomes the only person to blame when things go wrong. Muscovites are admittedly not a balanced sample of the country at large, but it says something that, in an opinion poll by the Moscow-based Levada Centre after Beslan, just a third of those questioned thought the terrorists "bear responsibility first and foremost" for the attack, with the rest split almost evenly between blaming the security services for being unable to prevent it, and "Russia's leadership, for continuing the war in Chechnya".

If Russia's spooks know anything, it is how to keep unpopular regimes in power. But woe betide the country if ever-more draconian measures became Mr Putin's only way of staving off ever-growing public discontent.

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Georgia

Taming the Wild East

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Can Georgia's revolutionaries bring in the rule of law?

FACING heavily armed criminals, separatists and a population that scorns everything from taxes to traffic laws, you would not normally sack half the police. But Georgia is not a normal country. And when Irakly Okruashvili, the interior minister, axed 12,000 officers, he was just beginning. Another 3,500 are to go; then half the staff in the prosecutor's office; then the regional courts. “Robbers, smugglers—everyone was here in this building,” says Mr Okruashvili.

AP

Speed up, or we'll all be sacked

Corruption and crime have raged through government, the judiciary, business and the lives of ordinary citizens for most of the past decade. The authorities lost control not only of bureaucratic details, but of chunks of the country: Abkhazia, Ajaria, South Ossetia and the Pankisi gorge, once said to be a haven for Chechen rebels. Accusations about Pankisi are resurfacing after Beslan, with Russian officials pointing fingers at “lawless” Georgia.

President Mikhail Saakashvili says nothing could be further from the truth. Not only is the Pankisi controlled, but the state itself has entered a new era. In six months, his youthful ministers have chased corruption, cracked down on smuggling and drawn up a radical new tax system meant to coax business back to legality. Control has been established over Ajaria, and there has been an attempt, so far unsuccessful, to regain it in South Ossetia. Georgia's people, who helped Mr Saakashvili take power peacefully last November, are happy: they long for order and want members of the former regime punished.

Critics, on the other hand, say the reality does not match the image. Nana Kakabadze, a civil-liberties campaigner, says detainees are still beaten or tortured by the police. Amnesty International agrees. Nor are the courts much help. Judges are ill-paid and they fear politicians. The new Supreme Court chairman, Kote Kemularia, is an ally of Mr Saakashvili's. “This is not rule of law, this is the absurd,” says Mrs Kakabadze.

Tinatin Khidasheli, of the Young Lawyers' Association, singles out the anti-corruption drive, in which rich allies of the old regime were detained and released only after paying huge fines. In many cases, the authorities probably lacked proof, she says, so they pressed the suspects to cough up millions of dollars. Alarm bells also sounded when an editor in Gori was arrested on drugs and arms charges. Defenders said he was framed for publishing things the local governor disliked. “In Gori, everybody thought the drugs were planted,” Mrs Khidasheli says.

Mr Saakashvili defends his tactics as a product of the times. But he also listens. After meeting lobbyists, he has reinstated the right of a group of them to inspect prisons on demand. In Mrs Khidasheli's words: “They're trying their best, but at times they try to overcome problems by illegal means.”

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Spain

Catholic squeeze

Sep 16th 2004 | SANTIAGO DE COMPOSTELA
From The Economist print edition

The Socialist government takes on several Catholic shibboleths

Get article background

THE Spanish Catholic Church has long since forgone the imaginative forms of torture dreamt up by the Inquisition. But as Spain's Socialist prime minister, José Luis Rodríguez Zapatero, has now discovered, the church has not lost its knack for extracting sweat from dissenters. Mr Zapatero's first act after winning election last March was to irritate America and Britain by withdrawing troops from Iraq. He then turned his powers of annoyance on the church, announcing a string of reforms that put ecclesiastical noses out of joint.

Mr Zapatero plans an entire programme of social reform, the “second transition” as some commentators term it. The government is taking on both the church's ideology and its privileged position. Mr Zapatero has pledged equality for homosexuals, clearing the way for them to be given the right to adopt children. “Homosexuals and trans-sexuals deserve the same treatment as heterosexuals and have the right to live freely the lives that they have chosen,” he has said. Further plans include allowing women to inherit the Spanish throne, liberalising the country's abortion laws, lifting restrictions on embryo research and cracking down on domestic violence.

Mr Zapatero's centre-right predecessor, José María Aznar, was broadly in favour of economic liberalisation. But in matters social, he seemed more of an avatar of the right's reactionary past, happy to keep Spain in its traditional Catholic straitjacket. To conservatives, the church has always been entwined with Spain's identity, from the days of the Catholic monarchs to Franco. By contrast, Mr Zapatero talks of “a Spain for all”, with religion wholly separated from the state.

Before losing the election, Mr Aznar's People's Party had planned to reintroduce obligatory religious instruction in schools. Mr Zapatero's Socialists say they will guarantee that religious education is optional, offering one non-religious element as an alternative. Teachers of religion are proposed by bishops but paid by the government, an arrangement that has led to numerous cases of abuse. One teacher, María del Carmen Galayo, lost her job for living with a man who was not her husband. The teachers will now be subject to secular employment regulations.

In July the church struck back, springing an ambush on Mr Zapatero when he accompanied King Juan Carlos at the annual national offering at the cathedral of Santiago de Compostela. Mr Zapatero, whose first overseas visit was to Morocco, stood in the shadow of a statue depicting Spain's patron saint, St James the Moor Slayer, on a white charger, hacking off the heads of Moors. Church officials had just overturned a decision to remove the statue, an 18th-century work by José Gambino, from the cathedral after it was deemed offensive to Muslims.

With 52 clergymen glowering, the archbishop of Santiago, Julián Barrio, let loose a point-blank fulmination. He accused Mr Zapatero of perverting the natural order. He declared that marriage is “essentially heterosexual” and that the church had every right to interfere in national politics “in cases of people's fundamental rights or the salvation of souls”. “It is not possible to truly understand or serve Spain without taking into account its Christian roots,” he added. Later the pope, who had praised Mr Aznar for his “loyal collaboration”, reproached Mr Zapatero. Spanish bishops have called for the faithful to demonstrate against the reforms.

Stung by such attacks, the labour minister, Jesús Caldera, has hit back that the church's preferential arrangement “has to end”. He is referring to the arrangement whereby Spaniards can tick a box offering a percentage of their taxes to the church. The sum gathered adds up to €78m ($95m). Since this is only

just over half the church's annual budget, the government makes up the rest directly. The head of the church in Spain, Antonio María Rouco, insists that it is “logical” that a religion to which over 70% of the population subscribes appears in the tax box. The church has held any reform of the system at bay for 17 years.

One theologian dismisses the attack on its coffers as a tactic deployed whenever the church resists the government. The Franco regime “pulled the plug on some church finances when the church criticised the dictatorship in its twilight years, and so it goes on,” he says. This time, the government's assault may be more serious.

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Rural France

Crying wolf?

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Farmers against greens over French wolves

FAIRY-TALE menace and biblical demon, the wolf is creeping into French politics. After a string of wolf attacks on sheep in the southern Alps, Serge Lepeltier, the ecology minister, agreed to a cull. But the decision has prompted furious debate between pastoralists and ecologists, divided the government, and re-opened the whole question of what the French countryside is for.

At the start of the 19th century, France had some 5,000 wolves. Then the wolf disappeared in the 1930s, chased by gunshot, poison and urbanisation. In 1992 wolves from Italy reappeared in the southern Alps. Last year, there were 508 wolf attacks, eight times as many as ten years ago, involving the loss of 2,177 sheep. Most took place in the Mercantour area of the southern Alps.

The government takes this seriously. A parliamentary inquiry into the wolf reported last year. This year, the government unveiled a wolf action plan. After first resisting a cull, Mr Lepeltier then said he had authorised one. The number of wolves for the chop? Four. The equivalent, said the minister, of 10% of the known wolf population.

“It will do nothing, it's ridiculous,” says Clément Gobert of the Confédération Paysanne, a farmers' union, who keeps 300 sheep in the southern Alps. He says France's wolf population is at least 100-strong. Many Alpine pastoralists already make a precarious living. Now, they face the cost—in extra sheepdogs and manpower—of protecting their flocks at night from the predators. A protest is planned in Chambéry next week. “Pastoralism as a way of live is threatened,” says Mr Gobert.

For their part, ecologists are livid about the cull. Their first legal challenge to it has failed; a second is in the works. “What we find scandalous,” says Olivier Rousseau, head of the Association for the Protection of Wild Animals, “is that the wolf is being made a scapegoat for the breeders' problems.” Instead, he argues, sheep-farmers should take advantage of the return of this majestic creature, and diversify into such activities as eco-tourism.

This touches the politically sensitive matter of how traditional French farming is to survive. Ecologists claim that farmers are exaggerating the wolf threat to cling to an outdated system of subsidies. Farmers retort that their business is production, not park-keeping. “We will not tolerate Disneyfication,” sniffs one sheep-farmer.

The dispute has also split the government. Hervé Gaymard, the farm minister, has accused the ecology minister of moving too slowly. Only a handful of *lieutenants de louveterie* (official wolf-hunters) have been roaming the Alps, and not a single wolf has been shot. Mr Gaymard also has little time for ecological correctness. “Between man and wolf,” he declared, to stunned environmentalists, “I choose man.” As the stand-off continues, he has appealed to the prime minister to intervene.

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Eastern Germany

Getting back together is so hard

Sep 16th 2004 | DRESDEN
From The Economist print edition

Fifteen years after the Wall came down, there are still two Germanies

ASK a German to recall memorable phrases from unification, and he may pick “flourishing landscapes”, and “now comes together what belongs together”, coined by two admired post-war chancellors: Helmut Kohl and Willy Brandt, respectively. They might be less memorable had they come true. Sadly, Germany's east is not flourishing; nor have the country's two parts come together. The divide was highlighted again this week by Horst Köhler, Germany's president, when he said that Germans must accept inequality between regions, because the country can no longer guarantee comparable living conditions in all of them.

On September 19th, voters in the states of Brandenburg and Saxony will show that, politically as well as economically, west and east are growing apart. In Brandenburg, the former communists, the Party of Democratic Socialism (PDS), could take top spot. And in both states, extreme-right parties could get into the parliament.

It is not that unification has failed utterly. Dresden, Saxony's capital, is a prime example of what has been achieved. Its historic centre sparkles anew in baroque splendour. The reconstruction of the Frauenkirche, reduced to rubble in 1945, is almost finished. This “Venice of the north” is again one of Germany's most popular tourist destinations. But many other cities in the east resemble Potemkin villages. Consider Löbau, a town of 19,000 an hour's drive east of Dresden. Its refurbished buildings mostly house discount shops or for-rent signs. Unemployment is officially 23%, and would be higher if young people had not moved west in droves. In the past decade, Löbau has lost one-third of its population.

The eastern economy is much like Löbau. From roads and railways to hospitals and airports, its infrastructure is often better than in the west, thanks to generous subsidies adding up to some €1.25 trillion ($1.5 trillion) since unification. In some regions, industry has revived. The Dresden area is an example: thanks to many high-tech investments, attracted by government grants, it calls itself Silicon Saxony.

Yet the eastern German economy has failed to become self-sustaining, says Rüdiger Pohl, former director of the Institute for Economic Research in Halle. Although it is growing faster than the west's, it would shrivel without government transfers, which are still flowing at an annual rate of €83 billion (about 4% of total German GDP and a whopping 22% of east German consumption). Many firms lack adequate capital, carry out only low-value activities or produce solely for the local market. Unemployment is stuck at 18.5%, more than twice the western rate.

Many of east Germany's problems flowed from the political decision to go for quick unification in 1990. East German firms, whose productivity was lower than expected, had too little time to adapt. Two other much-criticised decisions are almost secondary: the one-to-one exchange rate adopted for eastern and western marks, which meant high costs, and the rapid sale of eastern state firms by the Treuhand privatisation agency, which allowed western firms to buy and close competitors.

Too much money from the west was, for political reasons, spread around indiscriminately or wasted. Saxony poured resources into building up its strengths in cars and chips. But, starting from a weaker position, Brandenburg frittered away money on such things as a Formula One racetrack and trying to keep everyone happy—earning itself the nickname of the “little GDR”. Yet what really set back the eastern economy was the wholesale transfer of the western industrial relations and legal systems. Fledgling companies in the east had to put up with strong trade unions and high wages. And the east acquired a new bureaucracy—Brandenburg was taken over by officials from North Rhine-Westphalia. “We

got a system that favours the status quo when we needed one that supports development—just like western Germany in the 1950s", says Georg Milbradt, Saxony's premier.

The German welfare state was also imported wholesale. In a way, this was the grand bargain of unification: people were happy to be colonised as long as money kept coming. But, taken with promises such as Mr Kohl's "flourishing landscapes", this continuation of the old East Germany by other means slowed down a necessary change in mentality—as the state continued to take care of things.

A recent survey by the Allensbach Institute shows how different mentalities in the two parts of the country remain. To most western Germans, freedom (49%) matters more than equality (35%). To eastern Germans, it is the other way around (36% and 51%, respectively). In the west, 41% are happy with Germany's political system; in the east, only 27%. Other polls suggest that eastern Germans still feel like "second-class citizens", in the words of Matthias Platzeck, Brandenburg's premier.

All this may explain why so many eastern Germans are taking to the streets to protest against labour-market reforms, which hit them hard. The reforms have become a symbol that western Germany, itself in dire need of reform, cannot keep up its end of the grand bargain. Eastern Germany is going through the same phase of disillusion with capitalism that other central European countries did a decade ago. It too is turning to ex-communists and right-wing populists.

Even before the protests, the woes of the east were triggering debate. In June, a high-level commission argued that continuing to transfer billions eastwards would endanger Germany's future. The group proposed more focused subsidies, a smaller bureaucracy and a new minister for the east. The commission also broke a taboo by blaming many of Germany's economic ills squarely on the cost of unification. Politicians had always avoided this argument, for fear of creating conflict between west and east. Now, according to a survey by Forsa, another pollster, 24% of western Germans believe that it would be better if the Berlin Wall were still up (against only 12% in the east).

Yet the worst thing that could happen to Germany would be if its two parts started fighting over scarce resources, instead of creating the conditions for growth through structural reforms. And it would be a shame if the prediction of Wolfgang Nowak, a former junior minister in Saxony who now heads the Alfred Herrhausen Society, a think-tank, came true: "We might be the first country which has, by unifying, created two peoples."

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Charlemagne

The ultra-liberal socialist constitution

Sep 16th 2004
From The Economist print edition

French Socialists join British Conservatives in disliking the EU constitution

Get article background

THE European Union's draft constitution is in danger of being felled by a right-left combination punch from either side of the Channel. The French and British governments have promised referendums on the document, which provides a single constitutional framework for an EU of 25 countries and counting. In Britain, opinion polls suggest that the constitution will be rejected—though the vote will probably not take place until 2006. In France, most pundits had assumed that there would be a yes when the vote takes place in the autumn of next year. But last week Laurent Fabius, a former Socialist prime minister and would-be president, said that he would campaign against the constitution unless it is changed—thus splitting his party and ensuring that the no campaign will no longer consist only of fringe parties. A French no is now distinctly possible: a poll in *Le Point* this week showed only 51% of voters planning to vote yes.

But if Britain and France both turn down the constitution, they are likely to do so for entirely different, indeed contradictory, reasons. In France, the no campaign is dominated by left-wingers who see the constitution as embodying a heartless, free-market, liberal Europe. In Britain, the no campaign is led by right-wingers who argue that the constitution will impose failed, socialist ideas on all of Europe.

Thus the Bruges Group, an anti-European think-tank in Britain, claims that the constitution is “an enabling document to be used to impose outdated statist economic policies.” In similar vein, Oliver Letwin, finance spokesman for the opposition Conservatives, argues that “the EU constitution is a scaffold on which will be built regulatory powers over a wide range of economic affairs.” British opponents fret that the constitution's Charter of Fundamental Rights, which includes rights to “collective bargaining” and to “information and consultation” of workers, will open the door to the imposition of more onerous regulations on British business. They object to making “full employment” a fundamental goal of the Union, and worry about giving it a right to “co-ordinate” members' economic policies.

By contrast, many French Socialists decry what they see as the lack of ambition in the constitution, and particularly its failure to advance the causes of pan-European social legislation and tax harmonisation. Mr Fabius complains that the constitution has “grave defects, notably on social issues”. For him, “the most important questions for Europe are jobs and *délocalisation*”—the French word for jobs moving from high-cost France to low-cost countries in central Europe that have just joined the EU. He argues that the failure of the constitution to impose tax harmonisation or to expand pan-European social legislation means that nothing will be done to stop this. Other French Socialists argue that, by enshrining EU policies against state aid and in favour of competition, the constitution will force France down the road of privatisation and a smaller state.

How to explain this contradiction? Partly, it is because both sides are guessing how the document will be interpreted. The British government fought hard to secure an explanatory statement that the Charter of Fundamental Rights did not extend the scope of EU law and must be interpreted in line with national laws and practices. The French complain that this has effectively neutered the charter's ability to promote “social Europe”. British Tories are not convinced. They think the explanatory statement is so much verbiage, which will quickly be interpreted away by a European Court of Justice bent on expanding the powers of the EU. Only time and a succession of court judgments will show which side is closer to the truth.

That both French Socialists and British Tories dislike the constitution does not mean that one side is right and the other wrong. Given their different philosophical starting-points, it is entirely likely that both

parties will find grounds for complaint in a document that lays out, in excruciating detail, how policy will be made in areas as diverse as trade, competition, monetary policy, tax, consumer protection, the environment and defence. Thatcherites might shudder at Mr Fabius's call for a more “social Europe”. But they would probably agree with his view that the constitution would be a better document if it confined itself to institutional issues, rather than setting in stone policies that may seem entirely inappropriate in 30 years' time.

The superstate fear

Moreover, for all the differences in tone and philosophy of the no campaigns in the two countries, there is a common thread linking them: a fear that the growing power of Brussels is whittling away the freedom of action of national governments in Paris and London. This anxiety has always been more pronounced in Britain, which came late to the European project and has often felt pushed to its margins. The French, by contrast, have a good claim to have invented the EU and have traditionally felt a sense of ownership over it.

That feeling, however, is slipping away as enlargement of the EU makes it ever harder for France to control the European agenda. On a series of policies, whether bailing out bankrupt companies or cutting value-added taxes in restaurants, the French government has found itself blocked in Brussels. During the summer, the French press was full of morose commentaries on the decline of French influence in Brussels, which is thought to be reflected in everything from the rise of English as the EU's main working language to the failure of France's European commissioner to secure a grand portfolio.

British Eurosceptics have long had a similarly jaundiced attitude to Brussels and all its works, which they have tended to regard as a Franco-German plot. What might it take to convince the British sceptics that the dynamics of the European Union really have changed? Perhaps only a rejection of the constitution by their old French adversaries could do the trick.

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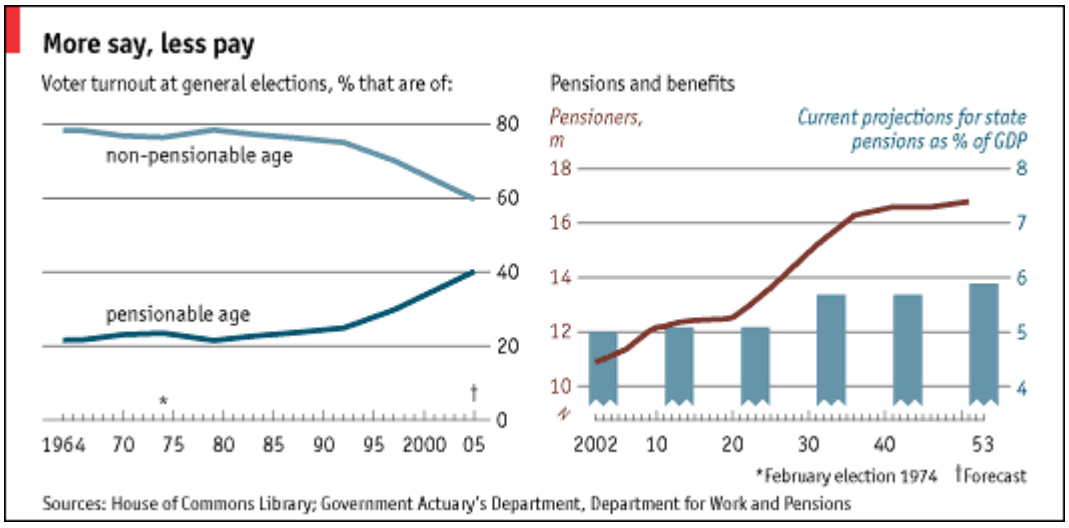
Pensions crisis

The battle for the older voter

Sep 16th 2004
From The Economist print edition

How the growing clout of older people has made pensions a hot issue

ODDLY enough, one of the main reasons for the growing political importance of the old is the voting behaviour of the young. The overall fall in voter turnout is due largely to a drop in voting among young people. The old have gone on reliably turning out at the polls. As a result pensioners, who represent 24% of the voting-age population, accounted for 35% of votes at the last election. At the next one, the figure is likely to be 40% (see chart).



The growing clout of the old helps explain the way some issues have come to the fore recently. The condition of the National Health Service (used disproportionately by the old) and the disgraceful behaviour of modern youth did not much trouble politicians 20 years ago. Now they are two of the issues that most preoccupy the government.

But the one that has risen fastest up the agenda is pensions. Next month, Adair Turner, head of the government's advisory Pensions Commission, will report on the crisis in British pension provision; and the government will thereafter try to work out what on earth to do.

The worst thing to have happened to British pensions has been the mass closure of company defined-benefit schemes to new employees. Firms have replaced these DB schemes, linked to final salary and years of service, with defined-contribution plans, which build up an investment fund. The trouble is that the contributions into these plans do not match those going into the DB schemes.

The erosion of the private-sector pillar casts doubt on the sustainability of Britain's cheap public pensions. Between 2010 and 2020, women's pensionable age will rise from 60 to 65, the same as for men. Even taking this change into account, the number of pensioners will increase by 50% over the next 40 years. Yet the government is forecasting that state pension benefits will creep up over that period from 5.0% of GDP today to 5.7%.

The government's forecast assumes that the basic state pension, currently £80 ($142) a week for a single person, will remain linked to prices. What this means, however, is that it will fall from 16% of average earnings to less than 9% in 30 years' time, according to the Pensions Policy Institute. This in turn means that more and more people will come to rely on the means-tested pension credit, which

props up the income of poorer pensioners. According to the Institute for Fiscal Studies, 64% of pensioners will be eligible for the pension credit in 20 years' time; that will rise to 71% by 2050.

Until now, the government has stoutly maintained that this is sustainable despite the unpopularity of means-testing. Internal debate within the Labour government has been suppressed while pension policy has been run from the Treasury by Gordon Brown. That has left the field open to the opposition parties to develop some popular-sounding ideas on how to deal with the pension crisis.

The Liberal Democrats, who kick off the seaside conference season on September 19th, are calling for a “citizen's pension” which would be based on residency rather than contributions. As a first step, they want to raise the basic state pension for the over-75s from £80 to £105 for single pensioners. They also propose that the government should pay for long-term care for the elderly, which happens in Scotland; in the rest of Britain, people have to use up their savings to pay for it.

The Conservative Party, which abolished the link between earnings and pensions in 1980, has a credibility problem in this area. Determined to overcome this, it now says it will restore the link. David Willetts, the Tories' highly-regarded pensions minister, says that most people agree on the need to rebuild the basic state pension.

However, rebuilding the basic state pension will be hugely expensive. Raising it to £105 and paying this to everybody over 65 would cost £9 billion a year, equivalent to a rise of almost 3p on the basic rate of income tax. And looming ahead is the big rise in the number of pensioners, from 11m today to more than 15m at the start of the 2030s. That will push costs up a lot further if the basic state pension is relinked to earnings.

Even so, Mr Blair will be nervous at being outflanked by the new consensus. The appointment of a new pensions minister, Alan Johnson, gives him the opportunity to put his stamp on pension policy. One option is for the government to fall in line with the other parties and take up the idea of rebuilding state provision. A second is to rebuild private provision by forcing people to contribute to private plans. Australia is trying that, and workers there seem to have accepted the idea, but it is too early to tell whether the scheme will constrain state pension costs in the long term.

The third possibility is to raise the state pension age, which most pensions experts reckon is the most sensible option, given the increase in life expectancy. At present, men claim their pension at 65 and women at 60. America is raising its state pension age from 65 to 67, but tentatively: although the reform was agreed in 1983, it won't be fully implemented until 2027. Politicians are nervous of telling voters they can't put their feet up, so if Mr Turner can push the government in that direction, he will be doing the country a favour.

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Public-sector pensions

The elephant in the room

Sep 16th 2004
From The Economist print edition

The growing burden of generous public-sector pensions

THERE is one big advantage to working for the state. Ministerial fads, the wage gap with the private sector, the stifling fog of bureaucracy—all are made bearable by the thought that at least one's retirement is well provided for.

Britain's public sector workers have some of the most generous pension plans in the country. Most companies no longer offer final-salary schemes to new employees. The public sector does; and its pensions are index-linked to inflation. Many schemes have low retirement ages, too: firemen can start drawing their pensions from the age of 50, policemen are expected to quit by 55. Even desk-bound civil servants can retire at 60 without penalty.

Such generosity is expensive, and is getting more so as the public sector expands and pensioners live longer (see chart). The government admits that there is a big hole in public-sector pension finances; in 2002 it put the total deficit at £380 billion. But Watson Wyatt, an actuarial company that used new private-sector accounting rules in its calculations, reckons the real figure is nearer £580 billion—or more than half of British national income. It points out that, when pension liabilities are included on the balance sheet, government debt soars from 33% of GDP to 85%.

Public-sector workers have one big advantage over their private-sector brethren: their pensions are underwritten by the taxpayer. Unlike private pensions, where contributions go into an invested fund, the public sector mainly runs “pay-as-you-go” schemes, with pensioners paid directly from tax revenue. Without reform, taxes will have to rise sharply in the future—by up to 5p in the pound, says Watson Wyatt, and that's just to keep the liabilities from growing.

The vast sums involved will make reform very difficult. Public-sector workers are heavily unionised and are protective of their pension rights. When the government announced its intention to raise the retirement age, they threatened to strike. Others have more radical ideas: the Adam Smith Institute, a think-tank, wants the government to finance the problem with a bond issue and then invest the proceeds into the stock market, in the hope that the return would be high enough to cover repayments and so plug the hole. But relying on the stockmarket is what has got company pension funds into a mess.

Solving the pension problem means taking a long view, and politicians aren't usually very good at that. But if nothing is done, taxes will have to go up to pay for public-sector pensions. That won't be popular with private-sector workers as they see their final-salary schemes being phased out. The growing disparity between the pensions available for government employees and private-sector workers is another reason why Britain's pension arrangements are looking increasingly unsustainable.

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Bad protests

Juvenile justice

Sep 16th 2004
From The Economist print edition

How not to dramatise a cause

AFP

Come down at once or I'll tell your father

THIS newspaper endorsed the war in Iraq, but concedes that those who opposed it knew how to demonstrate. Turnout at marches was always impressive, signs were witty and behaviour exemplary. Two protests held in London this week served as a reminder of how exceptional they were.

Surliness was the keynote of a smallish rally by the pro-hunting Countryside Alliance on September 15th, which featured scuffles with police and a brief invasion of the floor of the House of Commons. Protesters somehow failed to convey the impression of a persecuted minority trying to defend a harmless way of life.

Whereas the hunters were violent, Fathers 4 Justice, a father's rights group, veered into surrealism. On September 13th, two men dressed as comic-book characters scaled a fence around Buckingham Palace before clambering on to a ledge. Robin (David Pyke) gave up when challenged by armed police, but Batman (Jason Hatch) shouted and gesticulated for five hours. His point: he was a serious and responsible parent who ought to be granted more access to his children.

Mr Hatch, who once changed his surname in order to protect his children's privacy (the move hardly seems sufficient), not only attracted further scepticism and ridicule for his cause. He also fell for the old police trick of plying protesters with sweet drink. As any child will testify, a good dose of orange squash will, after a few hours, lead to discomfort. Particularly if your underpants are on over your trousers.

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Land reform

Get orf my land!

Sep 16th 2004
From The Economist print edition

A cry that may be heard no more, as new rights of access come into effect

HARRYING the landed classes is a sport as ancient as fox hunting; when done by a Labour government, it is considerably more effective. Beginning on September 19th, the guardians of Britain's rural estates will have a new insult to set beside inheritance tax and compulsory purchase orders, as the plebs gain the right to stroll over much of their land. Caroline Tayler, whose family have inhabited Pippingford Park, in East Sussex, for the past 85 years, is outraged. “This feels like theft,” she says. “It just seems so left-wing.”

The left-wing part is undeniable. The right to traipse across private property has been embedded in the Labour movement's spinal cord since the 1930s, when urban workers staged mass trespasses on pretty bits of northern England. Another source of inspiration, for this as for much other New Labour policy, is Scandinavia. Norway and Sweden not only allow free rambling across private land; they also permit fruit-picking, riding and skiing.

British reforms do not go quite that far. Only foot-based recreations are allowed, and only on mapped areas of “mountain, moor, heath and down”. But the area affected is large. The 153,000 hectares to be opened this Sunday are just the beginning: by the end of next year, 830,000 hectares will be available—7% of the land area of England, in addition to the very extensive network of footpaths and public parks already in existence. A quarter of Wales will go the same way, together with the great majority of Scotland, where the executive has approved more radical reforms.

Change has not been easy. In England alone, at least 2,700 appeals have been lodged with the Countryside Agency, which is charged with managing the new rights of access. Mapping has often been incompetent: Caroline Bedell, of the Country Land and Business Association, claims that quarries and quicksand are among the delights inadvertently opened to the public. And the reforms encourage some bad behaviour. All rural dwellers get a private exclusion zone around their house, but this is usually defined by fences and walls. So an edifice surrounded by a vulgar barrier will get a larger exclusion zone than a cottage tucked into a corner of moorland, which earns only the minimum 20 metres' privacy.

Such arbitrariness makes it seem as though the reforms come from urbanites putting the boot in to men of the soil—another aggravation to set alongside nit-picking farming codes and a ban on hunting, which was approved by the House of Commons on September 15th. That isn't quite right. Some of the impetus for the reforms stems from resentment at new landowners who made their fortunes in the cities and have created what Dave Morris, of Ramblers Scotland, calls “private kingdoms”. Madonna and Mohamed Al Fayed, the owner of Harrods, are among those who have petitioned for clemency. Large arable growers, who have ugly land and political clout, will hardly be affected: upland sheep farmers will suffer most from Islington's boots.

The expected invasion is likely to be polite, though. We know this thanks to Ian Keirle, a University of Wales academic who spent a cold two days tracking walkers in Snowdonia in the winter of 2002. They were allowed to stray off the paths, but fewer than one in ten did. Mr Keirle believes that, after a brief spell of Scandinavian-style roaming, everyone will resume their old routes. And, contrary to fears, urbanites are unlikely to visit the country solely in order to gaze in other people's kitchen windows. They can do that without leaving home.

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University admissions

Class worriers

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Tweaking the university admissions system won't satisfy left-wingers

Get article background

UNIVERSITIES are overwhelmingly middle-class: only a quarter of full-time undergraduates come from working-class backgrounds; at top universities, such as Cambridge, that drops to a tenth.

You don't have to be a left-wing class warrior to find that troubling. The government is determined to change it. This week an official inquiry suggested changes to the university admissions system in England (the rest of the country is different).

The biggest news is what the report by Steven Schwartz, vice-chancellor of Brunel University, didn't recommend. To the fury of some left-wingers, it scotched the idea that universities discriminate against working-class applicants. It also steered clear of other similarly cherished notions, such as precise or mandatory targets for recruiting disadvantaged students, penalties for the universities that fail to find enough of them and automatic positive discrimination on the basis of ethnic, class or school background.

The real barrier to working-class educational achievement is not at the university level, but at home and in schools. Figures published this week by the Organisation for Economic Co-operation and Development (OECD), a Paris-based think-tank, showed that a quarter of British young people drop out of education between the ages of 16 and 19. In most rich countries the figure is a lot lower. These drop-outs are mostly from poor homes; leaving school then makes it unlikely that they will enjoy the fruits of any later education.

But that's not to say the system can't be improved. It relies largely on the A-level exams usually taken at 18. Typically, applicants choose a bunch of possible universities before taking their A-levels, gain conditional offers, and then make their final choice once the grades are in.

That system is not only time-consuming; it also slightly favours students from the best schools who tend to be well-advised about their prospects. Recent research by the Sutton Trust, a charity, found that 3,000 working-class students with good grades miss going to the top universities that their results would warrant. Some do better than expected at A-level, but lacked the confidence to apply for a high-fliers' course before they got their results.

The Schwartz report therefore suggests changing the time-table. A-levels would be taken a bit earlier, so potential students would know their grades before applying. That sounds fine—but it will probably mean A-level teaching is compressed into less time. No prizes for guessing which schools will find that easiest to cope with.

Other tweaks include sharing interview results between universities, and better information for students about drop-out rates, average grades of those already on courses, and such like. That should be a welcome boost to customer power in higher education. Another idea is a new supplementary exam, on the lines of American scholastic aptitude tests.

There's only one stick behind the report. Universities that want to charge the top rate of tuition fees will have to agree bursary programmes with a central regulator. That may encourage more poor students to apply. But there'll be no regulation of admissions: these remain the university's business, with each applicant judged individually. Mr Schwartz sensibly reckons that rigid systems, whether based just on points for achievement, or including class background and other factors, are demoralising and burdensome.

Universities had been dreading more state interference in their admissions policies. But Mr Schwartz's gentle nibble has proved far less threatening than the government's initial barks and growls.

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Higher education

The brain strain

Sep 16th 2004
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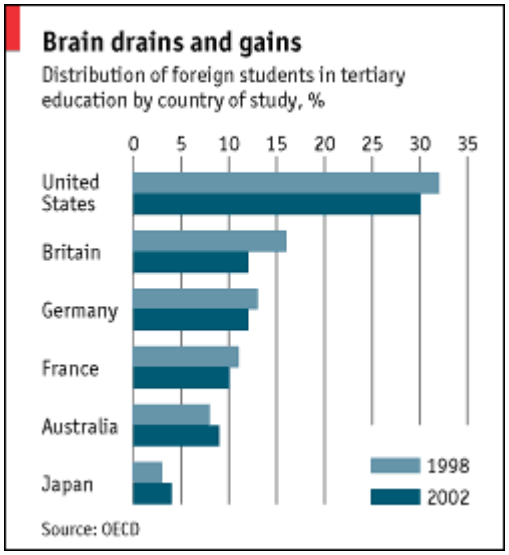
Are foreign students fed up with subsidising locals?

Get article background



TEACHING British undergraduates is a loss-making business subsidised by income from teaching foreign students. "International students," says Ivor Crewe, head of the lobby group Universities UK, are not merely an "exotic, welcome ingredient in campus life", but "what makes it possible for the academic enterprise to continue."

So far, British universities have had an easy ride on the back of a reputation earned in past decades. But overcrowded, shabby universities that charge stonking fees to foreigners to subsidise their other activities are an increasingly hard sell. Now there is a worrying sign that these vital customers are looking elsewhere. New data by the Organisation for Economic Co-operation and Development show Britain's share of the international student market falling from 16% in 1998 to 12% in 2002 (the latest available figure).

The fall in market share should worry both Britain's dozy up-market universities and its dodgy down-market ones. But they are just reacting to the planned-economy system built up over past decades. The real fault is the government's, for cramming in ever-more students, without providing the money (or letting the universities charge sufficient fees) to pay for it.

A further gripe is student visas, which are increasingly costly and hard to obtain. Admittedly, that is an even bigger issue for American universities—but it is grief that their British competitors would like to exploit, not to share.

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Climate change

How green is our Tony?

Sep 16th 2004
From The Economist print edition

Meeting lofty targets on greenhouse gases means risking unpopularity

Cow-towing to the greens

TOO long-term to influence the electoral cycle much and too international for individual governments to control, climate change tends to come low on politicians' lists of things to fix. This week, though, both the prime minister and the leader of the opposition reassured assembled greens that they really are worried. Michael Howard talked up Margaret Thatcher's record as a pioneering environmentalist. The following day, Tony Blair said that global warming is “so far-reaching in its impact and irreversible in its destructive power that it radically alters human existence”. Mr Blair's government has set itself correspondingly tough targets for reducing greenhouse gases. They will not be met unless the government starts to do some unpopular things.

In 1997, Labour promised to “lead the fight against global warming”. The government set itself the target of cutting carbon dioxide (CO_2) emissions to 20% below their 1990 levels by 2010, far more ambitious than the 12.5% target for reducing greenhouse gases agreed at Kyoto. At the time, the Royal Commission on Environmental Pollution reckoned it would take some drastic policy changes to meet this, such as increasing tax on fuel by 9% a year in real terms. Instead, the chancellor got rid of the automatic rise in fuel duty and the government set about reducing carbon emissions through a combination of taxing companies and a trading system that allows virtuous companies to sell credits to unreconstructed carbon junkies.

This has not had much effect yet. After falling in the 1990s, CO_2 emissions levelled off, and even increased slightly from 2002 to 2003. The government will still meet the limit set at Kyoto, thanks to the move from coal to gas-fired power stations in the 1990s, but on current projections it will fall well short of its self-imposed commitment. This makes greens cross. “This government has been able to trade as a credible leader on the environment on the back of Conservative policies, principally the ‘dash for gas’,” says Tony Juniper of Friends of the Earth.

Mr Blair has various options to try and win them over. Some small but useful things have been done to improve energy saving in homes, like tweaking building regulations and getting electricity suppliers to subsidise energy-efficient fridges and dishwashers, allowing shops to pass savings on to customers. The result, according to the Energy Saving Trust, a quango, is that while two years ago only 30% of fridges sold had gold stars for energy efficiency, now 80% do. Even so, current plans for energy saving will not meet the 20% target on their own.

That leaves reducing emissions from power generation, currently the biggest source of CO_2. Here the choice is between ugly and expensive wind power, and scary and expensive nuclear power. So far, the government has favoured wind farms, creating another artificial market to subsidise new ones. This policy may be nearing its limit due to the emergence of noisy local campaign groups opposed to having their vistas wrecked. Building offshore would get around this, but is even costlier.

Nuclear power plants meet around 20% of Britain's electricity needs, but their share will decline fast as old reactors are decommissioned. By 2030 there will be only one left. New reactors are being built in China, Japan, India and South Korea. There are no official plans to build in Britain, but Mr Blair said again this week that nuclear power is not off the agenda.

Many argue that nuclear energy is the only way for Mr Blair to meet his targets. But it has been ruinously expensive in the past and is, if anything, even less popular than wind power.

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Psychedelic mushrooms

Magic limbo

Sep 16th 2004
From The Economist print edition

The other drug industry

ON A recent Saturday, Camden High Street in London was busy living up to its name. A group of teenagers giggled at a priapic bong in a display window. Dealers made eyes at passers by and whispered “marijuana”. But not everyone was so discreet. Several stalls advertised “magic mushrooms”—psychedelic fungi containing psilocin, a hallucinogen and a class A drug.

This is trippy, because the government says selling the mushroom is illegal. It was not always thus. In a letter written back in 2003, the Home Office said that fresh psychedelic mushrooms are game as long as they have “not been prepared in any way”. Armed with the letter, entrepreneurs have set up an estimated 300 fresh magic mushroom outlets across the country, believing that only freezing, drying or making tea from the fungi was taboo. But a Home Office spokesman said this week that since the shrooms are “transported, wrapped and so on”, that makes them a “preparation”—and therefore banned.

For now, the government is letting individual police forces decide how to react, while waiting for court cases to “clarify this situation once and for all.” Police have raided several shops in recent months, while leaving others in the same district alone. Celia Strange, the solicitor who represents a Kent man charged for intent to supply psilocin, says she'll be defending the case on human-rights grounds. “The authorities are selectively choosing whom to prosecute while leaving other people to carry on with the business. It is unjust.” Meanwhile, Customs and Excise confirmed in July that the mushrooms are taxable at the standard 17.5% VAT rate, because they are not food but a drug. Retailers complain that one hand of the government is threatening to shut them down while the other is busy taxing their product as if it were legal.

The uncertainty might explain the high prices charged by the sellers. Stalls on Camden High Street sell 10-gram packages for between £10 and £15, depending on strength. Online prices are much lower, but the business still profitable: one web retailer of drug paraphernalia said the margin on the fungi he buys legally in the Netherlands and sells in Britain runs to several hundred percent, though he is coy about exact details. “People are waiting for direction,” he says. “If this uncertainty were removed, a lot more businesses would set up farms over here because that would cut down on costs of distribution.”

The mushroom-peddlers' responsible behaviour supports their argument for legalisation. The Camden Mushroom Company lines up the jars of shrooms in the order of potency, and stall-keepers are keen to advise customers on how to consume them. A “trip” lasts for up to six hours; the “shroomer” becomes exhilarated, grins inanely and often feels like a character in a movie. But the sort of skin-crawling bad trip associated with under-the-table hallucinogens like LSD is rare, because the doses are carefully measured. Some complain their experiences are insufficiently mind-bending, probably because sellers direct new customers to less potent varieties. Illegal drug dealers down the street offer no such favours.

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Bagehot

Why Gordon needs to be nice

Sep 16th 2004
From The Economist print edition

What the stories about Tony's wobbly period mean for the succession

POLITICS is a personal business, which is why it is wrong to dismiss the speculation about whether Tony Blair came close to quitting earlier this year as gossip and innuendo. The prime minister's state of mind and appetite for the job matter. But the trouble with such speculation is that nobody, other than perhaps Mr Blair himself, can be entirely certain of the truth. Different versions of what may or may not have happened suit different factions.

One story emerged from a dinner last November hosted by John Prescott, the deputy prime minister, to try to stop the feuding between the Treasury and Number 10. At the dinner (say Gordon Brown's supporters) Mr Blair suggested he would stand down in favour of the chancellor this summer. Another story (not confined to Brownites) is that Mr Blair suffered some sort of collapse in morale around April or May this year. But the two are incompatible. If Mr Blair told Mr Brown in November that he would soon be hanging up his hat and going off to tend the dahlias, why would he have been agonising over his future at Easter? Would he not simply have got on with his retirement plans, thankful that it would soon all be over?

One by no means ridiculous explanation is that in November Mr Blair said (as he has said a number of times before) that it would be asking for trouble to soldier on much past his tenth anniversary, and that Mr Brown had been too reticent to ask which anniversary he was referring to—becoming leader of the party in July 1994 or prime minister in June 1997. History can turn on such ambiguities.

That the prime minister did go a bit wobbly around Easter is certain. Family pressures, the Hutton Inquiry's failure to repair the collapse in his personal trust ratings, a hardening of public opinion against the Iraq war and the sickening images from Abu Ghraib all took their toll on Mr Blair's morale. With the prospect of humiliating European Parliament and local-government election results in June and a possibly damning verdict by the Butler committee in July, Mr Blair told close colleagues that if he thought he was turning into an electoral liability, he would make way for Mr Brown.

But it is doubtful that Mr Blair really thought he had become such a liability; or that, as some reports suggest, he had to be persuaded to carry on by a group of loyalist cabinet ministers aghast at the idea of Mr Brown taking over. People who see and work with Mr Blair every day don't believe he was ever that low. All testify to Mr Blair's almost scary resilience. To the extent that he discussed his future with colleagues, it was more in the spirit of someone seeking reassurance and validation. When he duly received it, other things began to turn up for him too: the handover of power in Iraq to the interim government after a unanimously backed UN resolution; the Tories' failure to recover electorally; only a mild rap on the knuckles from Lord Butler.

Not only did Mr Blair conclude that a third term was there for the taking, he also became quite excited about what he might be able to do with it. The five-year plans he had asked ministers to come up with were, after a slow and rather tentative gestation, turning into something interesting. Mr Blair became convinced that he had the makings of a radical manifesto that would prove his government still had plenty of puff left. Granted another couple of years in office, he could create a momentum for public-service reform that even the sceptics within his own party would find it impossible to reverse.

This is what made it so vital to Mr Blair to bring Alan Milburn, a former health secretary, back into the cabinet to snatch oversight of the manifesto and the election campaign from Mr Brown. Oddly, despite two landslide election victories, Mr Blair has never really felt that he has a mandate for Blairism. Mr Milburn's job is to ensure that, in his third term, he will have it.

A man with a lot to lose

Where does this leave Mr Blair's relationship with Mr Brown? What does it mean for the succession, assuming that Mr Blair is true to his instinct and goes in three years' time? Mr Brown holds the answers to both. So far, although he looks pretty grumpy, he has just about contained the fury his supporters say he justifiably feels. As long as he believes that Mr Blair does not intend to go on and on, he has every interest in continuing to do so. As for Mr Blair, he wants nothing more than to have decent relations with Mr Brown, albeit not at any price.

Whether or not Mr Blair sees Mr Milburn as a potential rival to Mr Brown—Number 10 has been quick to deny anything so provocative—he knows that Mr Milburn's arrival at the centre of power handily complicates the chancellor's calculations. Although distrusted by many in the party as a Blairite ultra, Mr Milburn is a tough character with a polished style designed to go down well with voters.

Among uncommitted Labour MPs there also lurks the fear that Mr Brown's tricky personality, enjoyably exposed by Derek Scott, the prime minister's former economic adviser, in a new book, “Off Whitehall”, might not translate well to Number 10. Mr Scott, who had to put up with every kind of slight from Mr Brown's Treasury for six years, bears a grudge. But he still manages to paint a devastating and all too recognisable picture of Mr Brown as a curmudgeonly control freak who disdainfully leaves the prime minister begging for hints about what might be in a forthcoming budget.

If Mr Brown is wise, he will use the coming months to do all he can to soften rather than reinforce that damaging caricature. If he is seen to put party unity above pique and personal ambition, he will make it much harder for Mr Milburn to establish himself as a serious contender. For all the ups and downs of the last few months, the leadership is still Mr Brown's to lose.

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Google and the search business

Sep 16th 2004
From Economist.com

A discussion with Konstantin Kakaes, science and technology correspondent for *The Economist*

“What Google did was harness the interrelationships that are built into the web in an intelligent fashion.”

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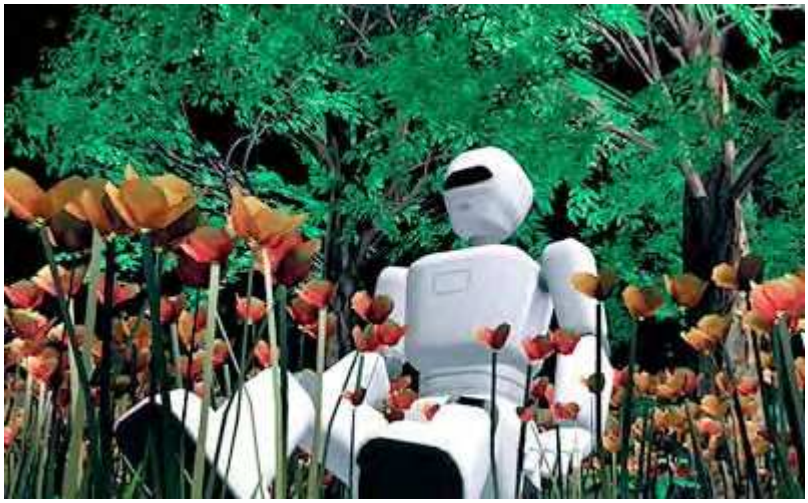
MONITOR

Deus ex machinima?

Sep 16th 2004
From The Economist print edition

Computer graphics: Hollywood movies increasingly resemble computer games. Now a growing band of enthusiasts is using games to make films

PAUL MARINO vividly recalls the first time he watched an animated film made from a video game. It was 1996, and Mr Marino, an Emmy award-winning computer animator and self-described video-game addict, was playing “Quake”—a popular shoot-'em-up—on the internet with a handful of friends. They heard that a rival group of Quake players, known as the Rangers, had posted a film online. Nasty, brutish and short, the 90-second clip, “Diary of a Camper”, was a watershed. It made ingenious use of Quake's “demo-record” feature, which enabled users to capture games and then e-mail them to their friends. (That way, gamers could share their fiercest battles, or show how they had successfully completed a level.) The Rangers took things a step further by choreographing the action: they had plotted out a game, recorded it, and keyed in dialogue that appeared as running text. Pretty soon, Mr Marino and others began posting their own “Quake movies”, and a new medium was born.



Is it a game or a film?

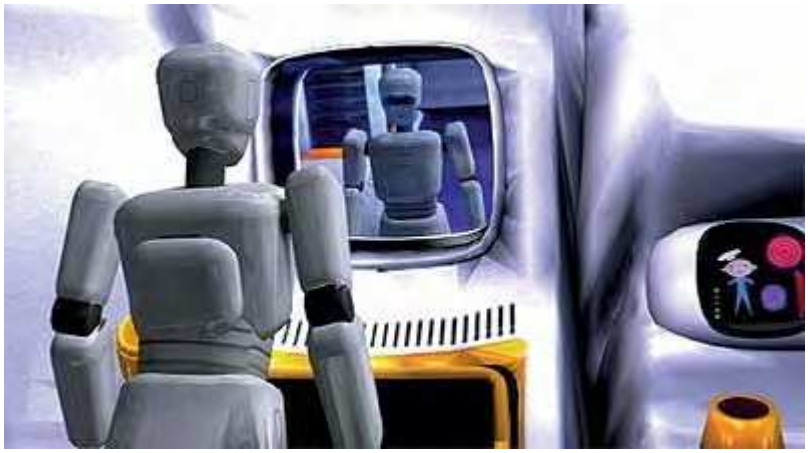
Eight years on, this new medium—known as “machinima” (“machine” crossed with “cinema”)—could be on the verge of revolutionising animation. Around the world, growing legions of would-be digital Disneys are using the powerful graphical capabilities of popular video games such as “Quake”, “Half-Life” and “Unreal Tournament” to create films at a fraction of the cost of “Shrek” or “Finding Nemo”. There is an annual machinima film festival in New York, and the genre has seen its first full-length feature, “Anachronox”. Spike TV, an American cable channel, hired machinima artists to create shorts for its 2003 video game awards, and Steven Spielberg used the technique to storyboard parts of his film “A.I.” At machinima.com, hobbyists have posted short animated films with dialogue, music and special effects.

All of this is possible because of the compact way in which multi-player games encode information about different players' movements and actions. Without an efficient means of transmitting this information to other players across the internet, multi-player games would suffer from jerky motion and time lags. Machinima exploits the same notation to describe and manipulate the movements of characters and camera viewpoints. The same games also allow virtual environments to be created quickly and easily, which allows for elaborate sets and props.

Games publishers have now begun to incorporate machinima into their products. Epic Games has built a movie-making tool into its spectacularly successful “Unreal Tournament” series, for example, and many

games include level-design software that both gamers and machinima artists can exploit. Later this year, Valve Software plans to release “Half-Life 2”, a long-awaited game that will include tools specifically geared toward machinima: in-game characters will have realistic facial expressions with 40 different controllable muscles, and eyes that glint. Conversely, machinima creators have built movie-making tools on the foundations of games. Fountainhead Entertainment licensed “Quake III” to create a point-and-click software package called Machinimation, which it used to produce “In the Waiting Line” by the British band Zero 7. It became the first machinima music video to be widely shown on MTV last year.

Those in the video-games industry are fond of quoting the statistic that sales of games now exceed Hollywood's box-office receipts. Could film-production technology also be overshadowed by games software? “Machinima can be considered Hollywood meets Moore's law,” says Mr Marino, the author of a new book on machinima* and executive director of the Academy of Machinima Arts & Sciences, which holds an annual film festival in New York. He points out that a 30-strong animation team at Pixar took four years and $94m to create “Finding Nemo”. Animation studios' desire to cut costs and production time, coupled with advances in video-game graphics technology offering the potential for photo-realistic “cinematic computing” could, he believes, eventually allow machinima to take over the animated-film business. It is affordable, allows for a great deal of creative freedom and, when compared with conventional forms of manual or computer-based animation, is both faster and, says Mr Marino, more fun.



A glimpse of the future of animation?

This is not to say that machinima is ready for prime time just yet. The production quality is good, and will only get better with the next generation of video games, such as “Doom 3”. But it still has a long way to go to match Pixar's “Monsters, Inc.” some frames of which (there are 24 per second) took 90 hours to generate using over 400 computers. And because machinima movie-makers have been for the most part video-game nerds, their films have historically lacked two crucial elements: story and character. “There are no Ingmar Bergmans yet,” says Graham Leggat of the Film Society at Lincoln Centre. “Last year's machinima festival winner, ‘Red vs Blue’, was based on sketch comedy. Most other efforts are of the standard video-game shoot-'em-up variety.” It is, in short, a situation akin to the earliest days of cinema.

The tools will also have to improve. At the moment, machinima-makers must use a patchwork of utilities developed by fellow enthusiasts. “Quake”, for example, has its own programming language that can be used to build movie-making tools. This enabled Uwe Girlich, a German programmer, to create a program called LMPC (Little Movie Processing Centre), which translated a particular sequence of in-game actions into text. David Wright, an American programmer, then released a program called “KeyGrip” to convert this text back into visual scenes, and to allow simple editing. Other programs allowed machinima-makers to add dialogue and special effects. As the games have advanced over the years, so have their associated tools. But the machinima-making process is still nowhere near as slick as desktop video-editing, for example, which together with the rise of digital video cameras has placed liveaction film-making tools in the hands of everyday computer users.

Another problem is that if a machinima-maker were to score a hit, there might be legal trouble. So far, makers of video games have looked the other way as their games were used in ways they never intended. But if someone were to make money from a film that relied on one of its games, a game-maker might be tempted to get the lawyers involved. For now, this does not concern Mr Marino, who believes that machinima is here to stay. “Five years ago, the games were not nearly as vivid as they are today,” he says. “The same goes with Machinima. We may not be on the level of ‘Shrek’, but that will change. It's inevitable.”

* “3D Game-Based Filmmaking: The Art of Machinima”, Paraglyph Press, $40.

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MONITOR

Science fiction? Not any more

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Communications: Taking its cue from “Star Trek”, an American company has devised a clever new form of voice-driven wireless communicator

SCIENCE fiction has often been the source of inspiration for new technologies. The exo-skeletons and head-mounted displays featured in the film “Aliens”, for example, spawned a number of military-funded projects to try to create similar technologies. Automatic sliding doors might never have become popular had they not appeared on the television series “Star Trek”. And the popularity of flip-top or “clamshell” mobile phones may stem from the desire to look like Captain Kirk flipping open his communicator on the same programme.

Now it seems that “Star Trek” has done it again. This month, American soldiers in Iraq will begin trials of a device inspired by the “comm badge” featured in “Star Trek: The Next Generation”. Like crew members of the starship *Enterprise,* soldiers will be able to talk to other members of their unit just by tapping and then speaking into a small badge worn on the chest. What sets the comm badge apart from a mere walkie-talkie, and appeals to “Star Trek” fans, is the system's apparent intelligence. It works out who you are calling from spoken commands, and connects you instantly.

The system, developed by Vocera Communications of Cupertino, California, uses a combination of Wi-Fi wireless networking and voice-over-internet protocol (VoIP) technologies to link up the badges via a central server, akin to a switchboard. The badges are already being used in 80 large institutions, most of them hospitals, to replace overhead paging systems, says Brent Lang, Vocera's vice-president.

Like its science-fiction counterpart, the badge is designed so that all functions can be carried out by pressing a single button. On pressing it, the caller gives a command and specifies the name of a person or group of people, such as “call Dr Smith” or “locate the nearest anaesthesiologist”. Voice-recognition software interprets the commands and locates the appropriate person or group, based on whichever Wi-Fi base-station they are closest to. The person receiving the call then hears an audible alert stating the name of the caller and, if he or she wishes to take the call, responds by tapping the badge and starting to speak.

That highlights a key difference between the “Star Trek” comm badge and the real-life version: Vocera's implementation allows people to reject incoming calls, rather than having the voice of the caller patched through automatically. But even the most purist fans can forgive Vocera for deviating from the script in this way, says David Batchelor, an astrophysicist and “Star Trek” enthusiast at NASA's Goddard Space Flight Centre in Greenbelt, Maryland. For there are, he notes, some curious aspects to the behaviour of

the comm badges in “Star Trek”. In particular, the fictional badge seems to be able to predict the future. When the captain of the *Enterprise* says “Picard to sick-bay: Medical emergency on the bridge,” for example, his badge somehow connects him to the sick-bay before he has stated the destination of the call.

Allowing badge users to reject incoming calls if they are busy, rather than being connected instantly, was a feature added at the request of customers, says Mr Lang. But in almost all other respects the badges work just like their fictional counterparts. This is not very surprising, says Lawrence Krauss, an astrophysicist at Case Western Reserve University in Cleveland, Ohio, and the author of “The Physics of Star Trek”. In science fiction, and particularly in “Star Trek”, most problems have technological fixes. Sometimes, it seems, those fixes can be applied to real-world problems too.

Vocera's system is particularly well suited to hospitals, says Christine Tarver, a clinical manager at El Camino Hospital in Mountain View, California. It allows clinical staff to reach each other far more quickly than with beepers and overhead pagers. A recent study carried out at St Agnes Healthcare in Baltimore, Maryland, assessed the amount of time spent by clinical staff trying to get hold of each other, both before and after the installation of the Vocera system. It concluded that the badges would save the staff a total of 3,400 hours each year.

Nursing staff often end up playing phone tag with doctors, which wastes valuable time, says Ms Tarver. And although people using the badges sometimes look as though they are talking to themselves, she says, many doctors prefer it because it enables them to deal with queries more efficiently. The system can also forward calls to mobile phones; it can be individually trained to ensure that it understands users with strong accents; and it can even be configured with personalised ringtones.

In Iraq, soldiers will use the Vocera badges in conjunction with base-stations mounted on Humvee armoured vehicles. Beyond medical and military uses, Vocera hopes to sell the technology to retailers and hotels. And the firm's engineers are now extending the system to enable the badges to retrieve stored information, such as patient records or information about a particular drug, in response to spoken commands. Their inspiration? Yet another “Star Trek” technology: the talking ship's computer.

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MONITOR

Home is where the future is

Sep 16th 2004
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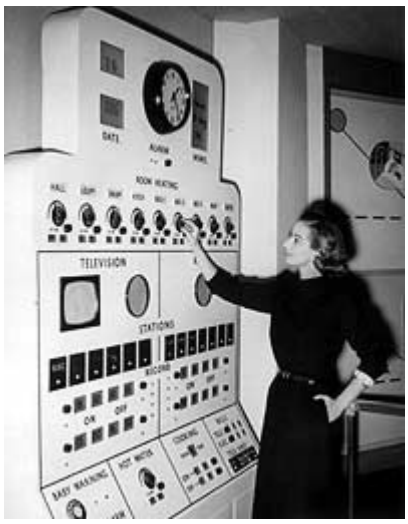
Consumer electronics: What ever happened to the dream of the smart home—and might it finally have taken a step closer to reality?

GettyImages



How the future used to look

THE idea of the smart, automated home of the future has a surprisingly long history. As early as 1893, *Answers* magazine enthused about the electrical home of the future, “fitted throughout with electricity, electric stoves in every room...all the stoves can be lighted by pressing a button at the bed-side...doors and windows fitted with electric fastenings”. By 1959, the designers of the “Miracle Kitchen” that went on show at the American National Exhibition in Moscow promised that “household chores in the future will be gone for the American housewife at the touch of a button or the wave of a hand.” Modern visions of the smart home feature fridges that propose recipes based on available ingredients, cupboards that order groceries just before they run out, and various internet-capable kitchen appliances. Despite all the hype, however, the home of the future has resolutely remained just that.

Yet the idea refuses to die. In Seattle, for example, Microsoft's prototype home of the future is so thoroughly networked that when you ask for the time, the house answers, and when you put flour and a food processor on the kitchen counter, it asks if you would like to make some bread and offers to project the recipe on to the counter.

Over at the Massachusetts Institute of Technology's Media Lab, Ted Selker and his colleagues are experimenting with a smart spoon. It has salt, acidity and temperature sensors, and can even understand what it is stirring. “This spoon is basically a tongue,” says Dr Selker. Using a simple display, the spoon advises you when, for example, you put too much salt or vinegar in the salad dressing, or your pudding is too hot. Counter Intelligence, another Media Lab project, uses talking ingredients to walk you through the preparation of various dishes. Dr Selker's group is also working with Stop & Shop, a retail chain, to develop handheld computers that help shoppers find the ingredients they want, and then suggest ways to prepare them.

Meanwhile, at Accenture's Sophia Antipolis laboratory in France, researchers are developing a device called a “persuasive mirror”. Why persuasive? Because it does not reflect what you actually look like, but what you will look like if you fail to eat well and exercise properly. Accenture's researchers are also dreaming up ways for the elderly to share digital scrapbooks online with their grandchildren, and smart systems that talk you through simple home-improvement tasks, such as installing a new light fixture.

Clearly, the dream of the smart home is alive and well. Indeed, the spread of broadband internet links, mobile phones and, in particular, home wireless networks over the past few years has led some people to conclude that the dream might even be about to become a reality. “The thing that has changed over the last five years,” says Franklin Reynolds of Nokia's research centre in Boston, “is that five years ago we talked about all of this and there didn't seem to be any movement in the marketplace. Now I see a hint that things are changing.”

Wireless networks are a key building block for smart homes, since they enable devices to talk to each other, and to the internet, without the need to run cables all over the place. Always-on broadband links help too, since they enable appliances to send and receive information whenever they want to. Wireless chips embedded into every device could transform an ordinary home into a distributed computing system. “The era of the stand-alone device is over,” says Jonathan Cluts, Microsoft's head of consumer

prototyping and strategy. “Soon, you literally won't be willing to buy anything that doesn't somehow communicate with the other things in your home or your life.”

Proponents of the smart home are also heartened by the proliferation of mobile phones, which are now the world's most ubiquitous digital devices. Nokia, the world's largest handset-maker, hopes to turn its tiny phones into universal remote-control devices, able to control everything from the television to the lights to the microwave. “It's the Swiss Army knife approach,” says Mr Reynolds. “After all, everyone—in our dreams at least—carries a mobile phone around with them.” You might, for example, use your mobile phone to turn on the heating while you are out, or check the view from your holiday home's security camera.

But there are still several large obstacles to overcome. The first is the challenge of making devices easy to use and simple to connect to each other. The aim, says Mr Cluts, “is to keep you free from thinking about the technology.” Robert Pait of Seagate Technologies, a maker of hard disks, says that will not happen until technology companies shift the burden of learning from consumers to machines. “Humans should be able to intuitively tell devices what to do,” he says. “Today we're all on a sharp learning curve with almost everything we buy.”

Agreeing on standards will be just as much of a challenge. The smart home will remain out of reach as long as devices from different manufacturers cannot talk to each other. For a start, that means agreeing on a wireless-networking standard: but there are several rival technologies. HomeRF, once touted as the ultimate home-networking standard, has been wiped out by Wi-Fi, but newer technologies such as ZigBee and ultrawideband are now in the running too. ZigBee is good for low-speed, low-power transmissions (automated meter readings, for example), while ultrawideband is ideal for linking up home-entertainment devices, though it is currently mired in a standards war (see article).

But several standards initiatives are afoot, says Brad Myers, who is in charge of the Pebbles project, an effort at Carnegie Mellon University in Pittsburgh to streamline the connectivity of home appliances. The Universal Plug and Play Forum, for example, aims to encourage “simple and robust connectivity” between devices from different manufacturers. The Internet Home Alliance, which has the backing of companies such as IBM, Microsoft and Whirlpool, is also working to improve connectivity between household devices. And in Europe, 168 companies have joined the Digital Living Network Alliance to streamline communication between PCs, handheld devices and home entertainment systems. “We're making progress,” says Dr Myers. Perhaps believers in the smart home can take heart. For even a standards war is a step forward, since it suggests that there will, someday, be a market worth fighting over.

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MONITOR

Pictures as passwords

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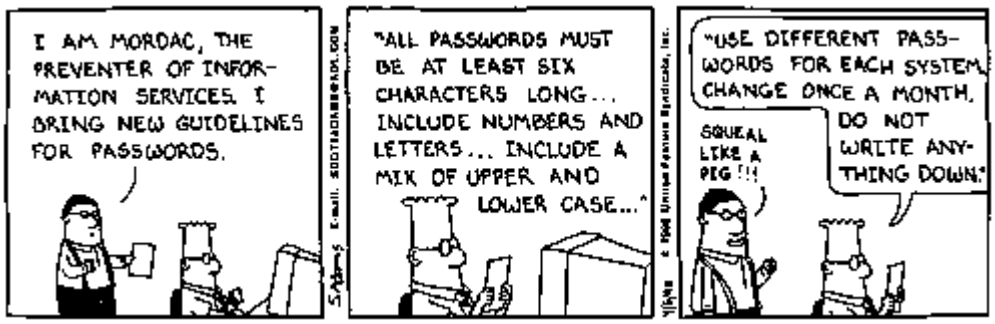

Computer security: Passwords are a cheap, cheerful and ancient security measure. But might it make more sense to use pictures instead?

HOW many passwords do you have? Of course, you do use separate passwords for your various e-mail accounts, office or university logons and e-commerce sites, and change them regularly—don't you? Actually, the chances are that you don't. Despite the advice of security experts, most people use the same one or two passwords for everything, because it is simply too difficult to remember dozens of different ones. Worse, many people use common words as passwords—such as hello, god and sex. About half choose family or pet names, and a third choose the names of celebrities. This makes life easy for malicious hackers: they can download dictionaries of the most popular passwords from the internet, and having worked out the password for one account, often find that it works on the owner's other accounts too.

A nonsense word made up of numbers and letters, or the first letters of each word in a phrase, is more secure. But too many such pA55w0rds can be difficult to remember, particularly since office workers now, on average, have to remember passwords for between six and 20 systems. No wonder 70% of workers forget their password at some time or another, forcing companies to spend an average of $18 per user per year dishing out new ones. And forcing employees to use different passwords, and to change them regularly, can be counterproductive: they are then even more likely to forget their passwords, and may end up writing them down. Might the idea of the password, which is thousands of years old, have finally had its day?

Proponents of graphic or pictorial passwords certainly think so. In May, the United States Senate deployed a system called Passfaces, developed by Real User, a firm based in Annapolis, Maryland, and formerly a British-based company called ID Arts. In essence, Passfaces uses a random series of faces (photographs of British students, in fact) as a password instead of a series of numbers and letters. Users are shown a series of faces, and are encouraged to imagine who each face reminds them of, or what they imagine that person to be like. When logging on, the same faces are then presented in order, but each one is shown together with eight other faces. The user clicks on the familiar face in each case, and if the correct sequence of faces is chosen the system grants access. Unlike a password, a series of faces cannot be written down or told to another person, which makes it more secure, says Paul Barrett, Real User's chief executive. And recalling a series of faces is easier than it sounds, because of the human brain's innate ability to remember and recognise faces.

Passfaces builds on the results established by earlier picture-recognition security systems. In the late 1990s, for example, Rachna Dhamija of the University of California at Berkeley developed a graphical password system called Déjà Vu, and asked students on the Berkeley campus to test it. She found that over 90% of the students could remember their pictorial passwords, while just 70% could recall character-based passwords. However, when allowed to choose their own pictures, most opted to choose

the most easily recognisable ones. Over half, for instance, chose a picture of the Golden Gate Bridge, which can be seen from the campus. Using abstract images instead proved far more secure.

The study prompted two other computer scientists, Fabian Monrose of Johns Hopkins University and Mike Reiter at Carnegie Mellon University, to build a password system called Faces. Like Passfaces, it uses mug shots. But the researchers found that allowing users of the system to choose their own series of faces was a bad idea. They demonstrated that given the race and sex of the user—neither of which is terribly difficult to guess in the US Senate—they could predict the sequence of faces on the first or second attempt for 10% of users. People, it turns out, tend to favour faces of their own race and opt for attractive people over ugly ones. So, like character-based passwords, picture-based passwords are more secure when generated randomly, rather than chosen by the user.

Pictorial passwords need not rely on faces, however, as two Microsoft Research projects demonstrate. The first, called Click Passwords, replaces passwords with a series of clicks in particular areas of an image. The clicks need not be pinpoint accurate: the required accuracy can be set to between ten and 100 screen pixels. Darko Kirovski, the researcher who created the system, uses an image of 60 flags from around the world, which allows users to click either on a whole flag or on a detail of the flag. But any image can be used.

The second system was developed by Adam Stubblefield, a research intern. While driving home from Microsoft's campus one day, he realised that cloud formations reminded him of real-world objects. By substituting inkblots for cloud formations, he could draw on decades of psychological testing using the Rorschach Inkblot test. In particular, if the same inkblot is shown to different people they will come up with different associations—and individuals tend to make the same associations even after long intervals. With Mr Stubblefield's method, users are shown a series of computer-generated inkblots, and type the first and last letter of whatever they think the inkblot resembles. This series of letters is then used as their password: the inkblots are, in other words, used as prompts.

Neither of these projects has made it out of the laboratory yet. But Microsoft is clearly thinking beyond passwords. Speaking at the RSA data-security conference earlier this year, Bill Gates, Microsoft's chairman, predicted the gradual demise of passwords. “They just don't meet the challenge for anything you really want to secure,” he said. Like many people, Mr Gates believes that a combination of smart cards and biometric devices, such as fingerprint scanners and facial-recognition systems, are the ultimate answer. But with an average price tag of $50-100 per user and lingering questions about their reliability, biometric devices have yet to spread beyond a few niche markets. Password-based security, in contrast, is cheap to implement since it requires no special hardware, but its limitations are becoming daily more apparent. Using pictures as passwords seems an attractive middle ground, since it provides more security for very little additional cost. It could be an idea whose time has come.

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MONITOR

Gadgets with a sporting chance

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Consumer electronics: New sports equipment, from tennis rackets to running shoes, uses processing power to enhance performance. Is that fair?

Yes, but is it cricket?

WHY should aspiring athletes stand on the sidelines when a spot of electronic assistance can put them in the middle of the game? That is the question many sports-equipment makers are asking as they sense an opportunity to boost their sales with high-tech products. You could call it the revenge of the nerds: a new wave of microchip-equipped sporting goods promises to enhance the performance of novices and non-sporting types alike—and could even make difficult sports easier.

Take cross-country skiing. Victor Petrenko, an engineer at Dartmouth College's Ice Research Lab in New Hampshire, has invented some smart ski-brakes that, he believes, will increase the popularity of cross-country skiing by making the sport less challenging for beginners. The brakes, currently being tested by a ski manufacturer in the Alps, offer the necessary friction for a bigger “kick-off force” and make the skis less likely to slide backwards in their tracks. To make this happen, an electric current from the bottom of the skis pulses through the ice, melting a thin layer of snow that instantly refreezes and acts as a sort of glue.

This is not the only form of smart ski to hit the slopes. Atomic, a leading ski-maker based in Austria, plans to introduce a system later this year that runs a diagnostic safety check to ensure that the ski binding is properly closed, with the result being shown on a tiny built-in liquid-crystal display.

Meanwhile, tennis equipment manufacturers are hoping that innovation will bring new zip to their business as well. They certainly need to do something: according to SportScanInfo, a market-research firm based in Florida, sales of tennis rackets in America fell 12.5% during the first half of 2004 compared with the first half of 2003.

With the ball clearly in their court, researchers at Head, a maker of sporting equipment, have devised a product that should appeal to players suffering from tennis elbow. A chip inside the racket controls piezo-electric fibres, which convert mechanical energy from the ball's impact into electrical potential energy. This energy is then used to generate a counter-force in the piezo-electric fibres that causes a dampening effect. All of this, the firm says, translates into less stress on the elbow. Head claims that residual vibrations in the racket are dampened twice as fast as in conventional rackets, reducing the shock experienced by the player's arm by more than 50%.

No doubt purists will object that this is simply not cricket. Rule-makers in many sports are now being forced to consider the implications of equipment that promises to augment athletes' performance with electronic muscle. The International Tennis Federation, that body that is responsible for setting the rules of the game, has specified in its most recent guidelines that “no energy source that in any way changes or affects the playing characteristics of a racket may be built into or attached to a racket.”

Yet despite such wording, the guideline does not actually eliminate the use of Head's smart rackets, because there is no external energy source—the damping effect relies solely on energy from the ball's impact. Though high-tech equipment may cause controversy on the court, tennis clubs have to adhere to the guidelines set for the sport, explains Stuart Miller, the ITF's technical manager. And if the rules allow self-generated forces to modify a racket's response, so be it.

Adidas

Put on your smart shoes

Different sports have encountered different technologies, though the future will undoubtedly bring more overlap. In golf, gadgets that pinpoint the location of the green using the global positioning system (GPS), for example, face challenges from the game's standards-setting institutions. The rule-making body of the Royal and Ancient Golf Club of St Andrews, which oversees the game in all countries except America and its dependencies, currently prohibits the use of distance-measuring devices. As a result, golfers cannot rely on GPS aids in a tournament. While technological innovation in golf equipment should continue, the player's skill should remain the predominant factor, says David Rickman, who is in charge of the club's rules and equipment standards.

The trend towards high-tech assistance is not limited to sports with a reputation for expensive gear, however. Even running, that most basic of sports, provides scope for electronic enhancement. The Adidas 1 running shoe, which is due to be launched in December, incorporates a battery-powered sensor that takes about 1,000 readings a second. A microprocessor then directs a tiny embedded electric motor to adjust the characteristics of the sneaker, enabling it to change the degree of cushioning depending on the surface conditions and the wearer's running style and foot position. The race for the smartest use of microchips in sporting equipment, it seems, has begun.

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MONITOR

Data you can virtually touch

Sep 16th 2004
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Computer interfaces: Is haptic technology, which allows users to "feel" virtual objects, finally ready to come out of the laboratory?

IN THE virtual world of a computer's imagination, you can look, but you can't touch. Advances in computer graphics have made it possible to create images that can fool the eye, yet they remain out of reach, mere phantoms trapped behind the glass of a computer monitor. With the right technology, however, it is possible to create a physical illusion to match the optical one. Such "haptic" technology is currently restricted to a few niches. But it is falling in price, and could be about to become rather more widespread.

Haptics is the science of simulating pressure, texture, temperature, vibration and other touch-related sensations. The term is derived from a Greek word meaning "able to lay hold of". It is one of those technologies much loved by researchers, but rarely seen in commercial products. In the laboratory, haptic systems are becoming increasingly sophisticated and capable. William Harwin, the head of a haptics-research team at the University of Reading, believes that such systems are now ready for much wider use.

"Our latest project has seen a significant step towards creating the hardware, software and control foundations for a high-fidelity, multi-finger, haptic interface device," he says. The user's fingers fit into rubber cups mounted on robot arms, the movement of which is carefully constrained by a computer to give the illusion of contact with a hard surface. It is then possible to model free-floating three-dimensional objects that can be explored from all sides.

It is even possible to mimic impossible objects. By joining two Möbius strips along their boundaries, you create a structure known as a Klein bottle. The bottle has only one surface: its inside is its outside. This strange mathematical object is impossible to construct in real life, yet the Reading team has made a virtual one that you can reach out and touch.

What can this technology be used for? So far, the most mature market is in medicine, where haptics are often used in training devices for doctors. Surgical-simulation devices are currently the bread and butter of many haptics companies. Immersion, a firm based in San Jose, makes virtual "keyhole surgery" simulators and needle-insertion simulators that provide a realistic "pop" as the needle enters the virtual vein. It is a far cry from the days when oranges were used as training devices. Dean Chang, the firm's chief of technology, believes that eventually all surgical training will be done this way, just as all pilots now train using flight simulators.

Recently, haptics have also been finding their way into consumer products. Many video-game controllers, such as force-feedback steering wheels and joysticks, already contain simple haptic devices to enable virtual rally drivers and pilots to feel the bumps of artificial roads or the rumble of machine guns. Mobile phones are next: Immersion has collaborated with Samsung, the world's third-largest handset-maker, to produce a technology called VibeTone, which will make its first appearance at the end of the year. Just as existing phones can be programmed to play different ring tones depending on the caller, VibeTone allows for different vibrations. Without reaching into your pocket, you will be able to tell whether it is your boss, spouse, or babysitter who is calling.

The falling cost of processing power is helping to make haptics feasible in new areas, says Mr Chang. "Every year when computing power gets cheaper, you can do haptics simulations with a cheaper microprocessor," he says. The processing power required to control a force-feedback steering wheel, for example, once required a desk-sized computer, but can now be handled easily by a simple commodity microprocessor.

That still leaves the cost of hardware. But here, too, prices are falling, notes Curt Rawley, chief executive of SensAble Technologies, a company based in Woburn, Massachusetts. In the past, he says, the technology has been expensive, hard to program, and difficult to integrate with other software. But where the prices of haptics devices used to start at $30,000, some systems now cost less than $3,000. SensAble has just launched a development toolkit that allows haptics to be added to almost any piece of software, and costs $1,950, including hardware. The firm hopes to stimulate demand for its haptic gear, which is currently used in the design and visualisation of products from running shoes to toys.

The ultimate goal is the integration of haptics with computer graphics, to create touchable holograms. Just such a system was demonstrated by SensAble last month at SIGGRAPH, a computer-graphics conference in Los Angeles. The holographic virtual-reality home theatre is still decades away, no doubt. But the advent of haptics in joysticks and mobile phones is a step in the right direction.

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MONITOR

Last gasp of the fax machine

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Office technology: That most exasperating piece of equipment, the fax machine, is on its way out. But it will take a very long time to die

GettyImages

Goodbye to all that

WHO hasn't felt the urge to smash up the office fax with a hammer at least once? The machines are slow, testy and prone to breaking—usually at the worst possible moment. They became indispensable items of office life in the 1980s and 1990s, when huge rolls of paper curled from out-trays as lengthy documents arrived. (More advanced machines cut the paper, but then the individual pages ended up on the floor in random order.) Such clunkiness was nonetheless a major advance from 150 years earlier, when Alexander Bain, a Scottish inventor, patented the first fax—a device that connected two styluses using a pendulum and a telegraph wire.

Thank goodness, then, that faxes are now going the way of the typewriter and carbon paper. E-mail is mostly responsible: it is easier, cheaper (especially for communicating abroad) and paperless. Whereas fax machines must be checked constantly to see whether something has come in, e-mail simply pops up on screen. Stand-alone fax machines have been especially hard-hit, though multi-function machines—which combine the fax machine with a copier, printer and scanner—have also struggled. Peter Davidson, a fax consultant, says that sales of fax machines worldwide fell from 15m in 2000 to 13m in 2001 and are still falling. He estimates that faxes now account for just 4% of companies' phone bills, down from 13% ten years ago. Americans especially are shedding them fast: by 2006, Mr Davidson predicts, their spending on fax machines will be less than half what it was in 2002.

Junk faxing has helped to keep the machines whirring. But it too is fading as governments crack down. In January, for example, America's telecoms regulator, the Federal Communications Commission, fined Fax.com, a marketing company based in California, $5.4m (the biggest such penalty ever) for mass-faxing unsolicited advertisements in violation of a law passed in 1991. Fax.com had defended itself on the grounds of free speech, an argument echoed by telemarketers, who are also under fire as people rebel against intrusive salesmanship.

As well as fining six companies in the last five years, the FCC has issued more than 200 warnings. Stronger limits on fax marketing, requiring anyone sending an advertising fax to have written permission from the recipient, are due to come into force in January 2005, though Congress may yet soften this to allow businesses and charities demonstrating an “established business relationship” with customers to send them faxes without prior permission.

Even so, new technologies and regulations will not kill off faxes just yet. The machines are still helpful for communicating with people in rural areas or poor countries where internet access is spotty. They also transmit signatures: although electronic signatures have been legally binding in America since 2000, hardly anyone actually uses them. Besides, some companies are only just adopting e-mail. Abbey, a British bank, used to rely heavily on faxes to transmit information between its headquarters and branches. Personal e-mail for branch employees was only installed this year as part of a technological overhaul.

Publishers, among the first to embrace fax machines because they sped up the editing process, may be the last to bid them goodbye. Stephen Brough of Profile Books, a London publisher affiliated with *The Economist*, says that faxes are still useful in transmitting orders to distributors, and in allowing authors to

indicate changes on page proofs easily. (Electronic editing, in which multiple versions of the same file swiftly proliferate, can be a nightmare.) Publishing contracts, which involve lots of crossing-outs and additions, can also be edited by fax. At Lonely Planet, a travel-guide company, a publishing assistant says she is sometimes asked to fax pages of company stationery to other publishers as proof of identity.

The persistence of the fax has much to do with the perils of e-mail. Because it is such a pain to operate, the fax is generally used with discretion (a relief after e-mail overload). Faxes also allow lawyers, among others, to have exchanges that they can later shred, without leaving an electronic record. The biggest gripe about document transmission via e-mail, however, is attachments: unless you have the right software, they are meaningless.

“One of the most common academic experiences is the failed attachment: a person sends you an attachment with incomprehensible formatting of immense length that crashes your system,” says Gillian Evans, a history professor at Cambridge University. “Then there is an irascible exchange of often quite stylish e-mails—at the end of which one of the parties says, ‘For goodness' sake, send me a fax!'” This is especially true, she says, during summers, when professors are often at home using slow, dial-up internet connections. Unless e-mail improves drastically, in other words, the fax machine seems likely to retain a devoted, if shrinking, following.

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MONITORS

And the winners are...

Sep 16th 2004
From The Economist print edition

Innovation Awards: Our annual prizes recognise innovators in six technology categories. Here are this year's winners

Reuters

Innovation at work, Grameen style

THIS newspaper was established in 1843 to take part in “a severe contest between intelligence, which presses forward, and an unworthy, timid ignorance obstructing our progress”. One of the chief ways in which intelligence presses forward is through innovation, which is now recognised as one of the most important contributors to economic growth. Innovation, in turn, depends on the creative individuals who dream up new ideas and turn them into reality.

The Economist recognises these talented people through our annual Innovation Awards, presented in five fields: bioscience, communications, computing, energy and a special “no boundaries” category. This year we added a sixth award for social and economic innovation, to acknowledge the way in which social-policy and business-model innovations can have just as much impact as high technology. The awards were presented at a ceremony in San Francisco on September 14th. And the winners were:

• Bioscience: **David Goeddel**, chief executive of Tularik, for **gene cloning** and the expression of human proteins. In 1978, Dr Goeddel went to work at Genentech as its staff scientist—making him the first employee of the first biotech firm. His pioneering work in the field of gene cloning and expression research made it possible to produce insulin in the laboratory for the first time, and led to the first drug produced using recombinant DNA technology. He is now chief executive officer of Tularik, a firm he co-founded.

• Communications: **Vic Hayes**, former chair of the Institute of Electrical and Electronics Engineers (IEEE) 802.11 working group, for the development and standardisation of **Wi-Fi** wireless networks. Considered the father of Wi-Fi, Mr Hayes chaired the IEEE 802.11 committee, which was set up in 1990 to establish a wireless networking standard. Wi-Fi now enables wireless connectivity in millions of homes, schools and offices, and an increasing number of hotels and airports.

• Computing: **Linus Torvalds**, Open Source Development Labs fellow, for the development of the **Linux** operating system. Mr Torvalds released the first version of the Linux kernel in 1991, when he was a 21-year-old computer-science student at the University of Helsinki, Finland. He made the source code behind Linux freely available so that others could modify it to suit their needs, or contribute their own improvements. Linux now runs on millions of devices from handhelds to mainframes, and has attracted wide industry support.

• Energy: **Takeshi Uchiyamada**, senior managing director, Toyota, for developing the **Prius hybrid car**. In 1994, Mr Uchiyamada joined Toyota's project to develop an eco-friendly car for the 21st century. He became chief engineer for the Prius, the world's first mass-produced petrol-electric hybrid car, in 1996. Given a free hand in the design, his team developed a continuously variable transmission system that allows the petrol engine and electric motor to work separately or in tandem. The hybrid design improves fuel efficiency and dramatically cuts emissions. By 2003, Prius sales had topped 150,000 units worldwide.

• No boundaries: **Gerd Binnig, Heinrich Rohrer** and **Christoph Gerber**, researchers at IBM's Zurich Research Laboratory, for the development of the **scanning-tunnelling microscope** (STM). In 1981 Dr Binnig, Dr Rohrer and Dr Gerber developed the STM, a device that made it possible to image and study structures and processes on the atomic scale and in three dimensions (see article). The STM, which now exists in dozens of variants, is a vital research tool in such fields as materials science, nanotechnology and microbiology. In 1986, Dr Binnig and Dr Rohrer shared half of the Nobel prize in physics for their work in developing the STM.

• Social and economic innovation: **Muhammad Yunus**, founder, Grameen Bank, for the development of microcredit. Dr Yunus is the managing director of Grameen Bank, whose 1,300 branches serve more than 3.5m people in 46,000 villages in Bangladesh. He devised the concept of rural microcredit, the practice of making small loans to individuals without collateral. Typical customers are women who borrow $30 to start a small business by, for example, buying a sewing machine. Grameen's repayment rate is 98%. The microcredit model has been emulated in 50 countries around the world, including America.

We extend our congratulations to the winners, and our thanks to the judges: **Denise Caruso**, executive director, The Hybrid Vigor Institute; **Martin Cooper**, chairman and chief executive, ArrayComm; **Shereen El Feki**, bioscience correspondent, *The Economist*; **Rodney Ferguson**, managing director, J.P. Morgan Partners; **Hugh Grant**, president and chief executive, Monsanto; **François Grey**, head of IT communications, CERN; **Leroy Hood**, president and director, Institute for Systems Biology; **Louis Monier**, director of advanced technologies, eBay; **Shuji Nakamura**, director, Centre for Solid State Lighting and Displays, University of California, Santa Barbara; **Andrew Odlyzko**, professor of mathematics and director, Digital Technology Centre, University of Minnesota; **Tim O'Reilly**, founder and chief executive, O'Reilly & Associates; **Rinaldo Rinolfi**, executive vice-president, Fiat Research; **Paul Romer**, professor of economics, Graduate School of Business, Stanford University; **Paul Saffo**, director, Institute for the Future; **Vijay Vaitheeswaran**, global environment and energy correspondent, *The Economist*; **CarlJochen Winter**, professor of energy and engineering, University of Stuttgart.

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RATIONAL CONSUMER

Televisions go flat

Sep 16th 2004
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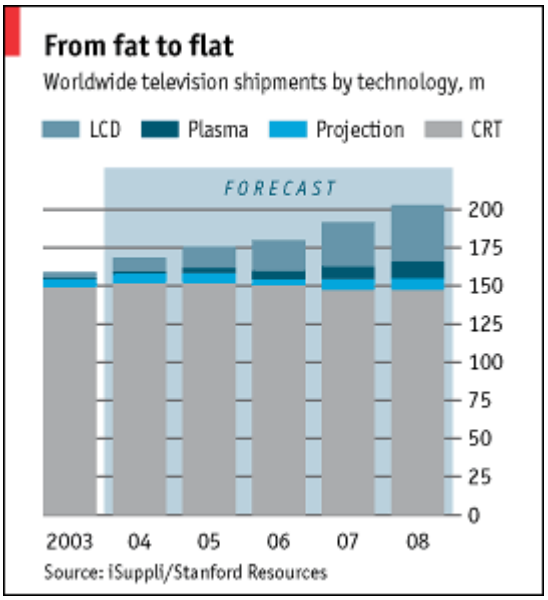
Consumer electronics: TVs based on bulky cathode-ray tubes are giving way to flat-panel models. How will the market evolve?



TELEVISIONS, it seems, can never be too wide or too thin—and increasingly, they are wide and thin at the same time, thanks to the growing popularity of flat-panel televisions based on plasma and liquid-crystal display (LCD) technology. Flat-panel TVs are stylish, do not take up much room, and do justice to the crystal-clear images produced by DVD players, digital-cable boxes and games consoles. Sales of LCD TVs in particular are expected to account for an ever larger portion of the market (see chart) as consumers embrace these new technologies at the expense of bulky models based on old-fashioned cathode-ray tubes (CRTs). LCD-based models are expected to account for 18% of televisions sold in 2008, up from just 2.2% in 2003, according to iSuppli, a market-research firm.

LCD TVs are the latest example of a technology from the computer industry causing a stir in consumer electronics. For years, anyone who wanted to buy a flat-panel television had to buy a plasma screen, a large and expensive (a 42-inch model costs around $3,500) option. LCD technology, already used in flat-panel computer monitors and laptop displays, makes possible smaller, more affordable flat-panel TVs: a 17-inch model costs around $800, for example.

The prospect of a much bigger market has prompted new entrants, including PC-makers such as Dell and HP, and established consumer-electronics firms, such as Motorola and Westinghouse (both of which stopped making TVs decades ago) to start selling televisions alongside the established television-set manufacturers. For PC-makers, which already sell flat-panel monitors, diversifying into TVs is no big leap. For consumer-electronics firms, the appeal of flat-panel TVs is that they offer much higher margins than conventional televisions. During the late-2003 holiday season, makers of flat-panel TVs, both LCD and plasma, succeeded in creating a tremendous buzz around their products, says Riddhi Patel, an analyst at iSuppli.

But it did not translate into sales to the extent that the manufacturers had hoped. Although more people are now aware of flat-panel TVs, many are still deterred by their high prices. The expense is difficult to justify, particularly since a 30-inch LCD television can cost up to four times as much as a comparable CRT-based model, with no real difference in picture quality.

Flat-panel TV-makers have now, says Ms Patel, begun to cut their prices. For one thing, they are sitting on a lot of unsold inventory: the panel-makers made too many panels, the TV-makers built too many TVs, and the retailers ordered more than they could sell.

Prices are also expected to fall as production capacity is stepped up. Sharp opened a new “sixth generation” LCD factory in January. In May, Matsushita, the Japanese firm behind the Panasonic brand, announced that it would build the world's biggest plasma-display factory. And in July, Sony and Samsung announced that their joint-venture, a “seventh-generation” LCD factory at Tangjung in South Korea, would start operating next year. There is concern that this year's record investment in LCD plants could lead to overcapacity next year. For consumers, however, this is all good news: a glut will mean lower prices.

The prospect of sharp price declines over the next few years means the flat-panel TV market is on the cusp of change. At the moment, LCD is more expensive than plasma on a per-inch basis: a 30-inch LCD TV costs around the same as a 40-inch plasma model. The vast majority of LCD TVs sold are currently 20 inches or smaller; larger sizes cannot yet compete with plasma on price. So plasma has the upper hand at larger sizes for the time being, while LCDs dominate at the low end.

For anyone looking to buy a flat-panel TV, this makes the choice relatively simple: if you want anything smaller than a 30-inch screen, you have to choose LCD; and if you are thinking of buying bigger, plasma offers better value. (Above 55 inches, TVs based on rear-projection are proving popular, having benefited from the buzz around flat-panel displays.)

Watch out plasma, here comes LCD

As the new LCD plants start running, however, LCD TVs will increasingly be able to compete with plasma at sizes as large as 45 inches. The new seventh-generation LCD plants will crank out screens on glass sheets measuring 1.9 by 2.2 metres, big enough for twelve 32-inch or eight 40-inch panels. LCD could thus push plasma upmarket, unless makers of plasma TVs drop their prices too.

The result is expected to be a fierce battle around the 42-inch mark. This may prompt buyers to look more closely at the relative merits of the two technologies, each of which has its pros and cons. Plasma offers higher contrast, which means deeper blacks. But although the longevity of plasma panels has improved in recent years, from 10,000 hours to 30,000 hours, LCD panels have a lifetime of 60,000 hours. LCD TVs also have the advantage that they can also be used as computer monitors. But their response is slower than plasma, so they are less suitable for watching sports.

With prices about to tumble, when is the right time to buy? There will be some good deals around in the next few months, says Ms Patel, as manufacturers start hyping their products again during the holiday season. Some prices will have fallen by as much as 40% compared with the same time last year. That may prompt many more people to take the plunge.

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REPORTS

You're hired

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Computing: By unloading work on to their customers, firms can grant them more control—and save money in the process

MEET your airline's latest employee: you. You may not have noticed, but you are also now working for your phone company and your bank. Why? Because of the growth of the self-service economy, in which companies are offloading work on to their own customers. It is, you could say, the ultimate in outsourcing. Self-service can have benefits both for companies and customers alike. It is already changing business practices in many industries, and seems likely to become even more widespread in future.

The idea is not new, of course. Self-service has been around for decades, ever since Clarence Saunders, an American entrepreneur, opened the first Piggly Wiggly supermarket in 1916 in Memphis, Tennessee. Saunders's idea was simple, but revolutionary: shoppers would enter the store, help themselves to whatever they needed and then carry their purchases to the check-out counter to pay for them. Previously, store clerks had been responsible for picking items off the shelves; but with the advent of the supermarket, the shoppers instead took on that job themselves.

On the heels of supermarkets came laundromats, cafeterias and self-service car washes, all of which were variations on the same theme. But now, with the rise of the web, the falling cost of computing power, and the proliferation of computerised kiosks, voice recognition and mobile phones, companies are taking self-service to new levels. Millions of people now manage their finances, refinance their home loans, track packages and buy cinema and theatre tickets while sitting in front of their computers. Some install their own broadband connections using boxes and instructions sent through the post; others switch mobile-phone pricing plans to get better deals. They plan their own travel itineraries and make their own hotel and airline bookings: later, at the airport, they may even check themselves in. And they do all of this with mouse in hand and no human employees in sight.

Self-service appeals to companies for an obvious reason: it saves money. The hallmark of all of these self-service transactions is that they take place with little or no human contact. The customer does the work once done by an employee, and does not expect to be paid. So to work well, self-service requires the marriage of customers with machines and software. That union, says Esteban Kolsky of Gartner, a consultancy, is now doing for the service sector what mass production once did for manufacturing: automating processes and significantly cutting costs.

“From the corporate side you hear, ‘Well, we want to make sure the customer gets what he wants,' or whatever, but, bottom line, it does reduce costs,” says Mr Kolsky. Francie Mendelsohn of Summit Research, a consultancy based in Rockville, Maryland, agrees. “People don't like to admit it, but self-service is used to reduce head count and therefore improve the bottom line,” she says. “It's not politically correct, but it's the truth.”

Netonomy, a firm that provides self-service software to telecoms operators, reckons online self-service can cut the cost of a transaction to as little as $0.10, compared with around $7 to handle the same transaction at a call centre. As operators offer new services, from gaming to music downloads, the logical way to manage their customers' demands, says John Ball, Netonomy's co-founder, is to let customers do it themselves. There can be advantages for customers, too: convenience, speed and control, says Mr Kolsky. “Rather than wonder if we're going to get good service, we'd much rather go to a website or a

kiosk or an ATM and just do it on our own," he says.

A win-win situation, then, in which companies reduce their costs and customers gain more control? Not necessarily. If companies extend self-service too far, or do it in the wrong way, they could alienate their customers. In particular, consumers will embrace self-service only if the systems are well designed and easy to use. Shopping online, for example, with round-the-clock access and no crowds, traffic or pesky salespeople, lends itself to self-service. But when customers want a question answered or a problem with a transaction resolved, automated systems often fail them—and may deter them from doing business with that company again.

If companies are going to jump on the self-service bandwagon, says Mr Kolsky, they had better be prepared to do it right. "They have to look at self-service strategically, not just as a cost-cutter," he says. Most airlines, for example, are simply using online self-service to cut costs, rather than to cater to their customers' needs, he suggests. Booking a complex itinerary online is often difficult or impossible. And, says Mr Kolsky, "you can book a ticket on the web, but how many times have you tried to cancel a ticket online?"

Help yourself

Airlines are having more success with another form of self-service: kiosks. Automated teller machines (ATMs) and self-service petrol pumps have been around for years, but other kinds of kiosk now seem to be proliferating like rabbits. Most airports and large railway stations in America, Europe and Japan are lined with touch-screen machines that will sell you a ticket or spit out a boarding pass in far less time than it takes to queue up and deal with a human being. According to this year's Airline IT Trends Survey, 33% of airlines expect that by the end of the year, more than half of their domestic customers will buy their tickets from kiosks.

Kiosks are also showing up in cinemas, shops and car-rental centres, and moving into hotels, amusement parks and malls, allowing customers to buy what they want with the swipe of a credit card and then quickly move on. According to Ms Mendelsohn, the number of retail kiosks worldwide will grow by 63% over the next three years, to 750,000.

This is partly because a new generation of customers is more comfortable with using computers, keyboards and screens, whether at home or in the mall. The technology has improved in recent years, too. "Kiosks have been around for decades, but the technology wasn't always up to the job and people were far more fearful of using them," says Ms Mendelsohn. But the main reason for kiosks' growing popularity, she says, is that they let users jump the queue.

"Just as mass production transformed manufacturing, self-service can allow services to be delivered at low cost and in large volumes."

Kiosks are even proliferating at the birthplace of self-service itself. Some retailers are experimenting with automated check-out counters that allow shoppers to scan their own groceries. The most sophisticated systems actually "talk" to customers, telling them what each item costs as it is scanned and walking them through the process step-by-step. Less fancy kiosks simply let shoppers scan purchases, pay and move on. Either way, the customer is doing all the work. But shoppers do not seem to mind. "People tell me, 'This is faster. This is fun'," says Ms Mendelsohn. "Actually, it is not faster, but when was the last time you applied the word 'fun' to shopping in a supermarket?"

In a study commissioned by NCR (a maker of ATMs and other kiosks), IDC, a market-research firm, found that nearly 70% of customers in five different countries said they were willing to use self-check-out. In America, the figure was 78%. That would suit the supermarket chains just fine, since a kiosk can handle the workload of two-and-a-half employees at a fraction of the cost.

Photo kiosks, which can make prints from digital-camera memory cards, are now popping up in many shops. After that, kiosks could start to colonise fast-food restaurants. McDonald's is trying out several systems with varying degrees of success. And Subway, a sandwich chain, is installing kiosks to free employees who make sandwiches from the job of having to take orders and handle payments (though it has, so far, stopped short of simply asking customers to make their own sandwiches). Despite their growing popularity, however, kiosks have not been universally embraced. Some, it seems, talk too much. "They get vandalised," says Ms Mendelsohn—not by customers, but by people who work in the vicinity, and who cannot stand to listen to their incessant babbling.

Self-service need not involve websites or kiosks. It can also be delivered over the phone. The latest systems do away with endlessly branching touch-tone menus in favour of interactive voice-recognition (IVR) technology, which supposedly allows customers to talk directly to machines. IVR systems greet callers with a recorded human voice and then use voice-recognition software to engage in something like a human conversation.

The talking cure?

In 2001, America's perennially cash-strapped rail system, Amtrak, introduced a perky IVR system called “Julie” (after the human owner of the service's voice), created by SpeechWorks, a software firm based in Boston. Julie greets callers in a lively but businesslike manner, and then, very informally, explains how the system works. The same old branching system is there, but since callers are answering “Yes” or “No” or providing other simple one-word answers to Julie's questions, it does not feel quite as tedious.

If you say “reservation”, for example, Julie walks you through the process, asking for your starting point and destination, and filling you in on schedules and costs. By keeping the “conversation” simple, the software reduces misunderstandings and moves the process along pretty smoothly. If you get stuck, you can still reach a human simply by asking for one. (Julie tells you how to do that, too.)

Amtrak says the system now handles a third of the rail system's bookings, and surveys show 80% of callers are happy with the service. In its first two years of operation, Julie saved Amtrak $13m. Last year Julie was given the ability to handle credit-card transactions directly, without passing the call on to a human agent, which should lead to further savings.

Phone companies, brokerage firms, utility companies and insurance firms are all now replacing old touch-tone systems with IVR. In Britain, the Royal Mail installed an IVR system in 2003 that combines technologies from two software companies, Aspect and Nuance. Last year it handled 1m customer inquiries, reducing customer-service costs by 25%.

While a carefully designed IVR system can work well, a recent study by Forrester, a consultancy, suggests that not all of the kinks have been entirely worked out. The firm surveyed 110 large companies and found that IVR systems met the needs of their customers a paltry 18% of the time, less than any other form of customer contact. “Clearly,” says Navi Radjou of Forrester, “usability needs to be improved.”

And that seems to be the ultimate self-service challenge. Machines are fast, reliable workers with prodigious memories. But they are more inflexible than even the rudest salesperson. “As customers realise they can't get everything they need, they give up and then you have dissatisfied customers coming through other channels,” says Mr Kolsky.

But when done correctly, self-service systems have proved that they can both save money and make customers happy. This suggests that they could indeed transform the service economy in much the same way that mass production transformed manufacturing, by allowing services to be delivered at low cost in large volumes. Though it may take five years before most transactions are conducted via self-service, says Mr Kolsky, “we're definitely moving in that direction.” In other words, you never know who you might be working for next.

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REPORTS

Supercharging the brain

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Biotechnology: New drugs promise to improve memory and sharpen mental response. Who should be allowed to take them?

DO YOU have an important meeting tomorrow, or perhaps an examination, for which you would like your mental powers to be at their peak? Within a few years, you may have the option of taking a “cognitive enhancer”—a drug that sharpens your mental faculties. During the 1990s—declared “decade of the brain” by America's Congress and the National Institutes of Health—much progress was made in understanding the processes of memory and cognition. Advances in genetics, molecular biology and brain-imaging technologies allowed researchers to scrutinise the brain's workings and gave them the potential to create drugs to enhance aspects of its performance. Though there are very few products on the market that reflect this increased understanding, that may soon change.

At least 40 potential cognitive enhancers are currently in clinical development, says Harry Tracy, publisher of *NeuroInvestment*, an industry newsletter based in Rye, New Hampshire. Some could reach the market within a few years. For millions, these breakthroughs could turn out to be lifesavers or, at the very least, postpone the development of a devastating disease. In America alone, there are currently about 4.5m people suffering from Alzheimer's disease, and their ranks are expected to grow to 6m by 2020. Mild Cognitive Impairment (MCI), defined as memory loss without any significant functional impairment, is estimated to afflict at least another 4.5m people. Because the majority of MCI patients will eventually develop Alzheimer's, many doctors believe that intervening in the early stages of the disease could significantly delay its onset.

But there is a fine line between curing the ill and enhancing the well. The gradual deterioration of mental faculties is part of the natural process of ageing. There are now about 85m people aged 50 and over in America, many of whom may already fit the definition of “age-related cognitive decline”, a category so vague it includes people who become distressed over such mild glitches as forgetting their keys or glasses. Should they be offered “cognitive enhancers” too?

And the interest in such drugs will not stop there, predicts James McGaugh, who directs the Centre for the Neurobiology of Learning and Memory at the University of California at Irvine. Next in line could be executives who want to keep the names of customers at the tips of their tongues, or students cramming for exams. “There's an awful lot of sales potential,” says Dr McGaugh. That is putting it mildly. But are

such drugs really feasible—and if they are, who should be allowed to take them?

Thanks for the memories

A handful of small companies are at the forefront of the fledgling field of cognitive enhancement. Among them is six-year-old Memory Pharmaceuticals, based in Montvale, New Jersey, which has two compounds in early-stage clinical trials and recently went public. The company's visionary and Nobel prize-winning co-founder, Eric Kandel, has been unravelling the processes of learning and memory for more than four decades with the help of *Aplysia*, a type of colossal sea slug that grows up to a foot in length. While it has only about 20,000 neurons (humans have 100 billion), individual neurons are large enough to be distinguished by eye—making them easy to study.

When a shock is applied to *Aplysia*'s tail or head, messages travel around a circuit of neurons, causing it to retract its gill for protection. The same fundamental process occurs in humans too: neurons “talk” to each other across a gap, the synapse, via chemicals called neurotransmitters, which bind to receptors at the receiving end. One shock in *Aplysia* creates a memory that lasts for minutes; several shocks spaced out over time will be remembered for days or longer. Dr Kandel showed that the process of acquiring long-term memories does not change the basic circuitry of nerve cells. Rather, it creates new synaptic connections between them, and solidifies existing ones.

In 1990, Dr Kandel's laboratory at Columbia University found the first clue to one of the key elements underlying that process—“cyclic AMP response element binding protein”, or CREB. It turns out that CREB functions like a molecular switch that can turn genes off or on, thus manipulating the production of proteins that bring on lasting structural changes between neurons. Lowering the threshold for turning on that switch causes memories to be consolidated more easily. After creating compounds that successfully manipulated the CREB pathway in rodents, the company signed a partnership with Swiss pharmaceutical giant Hoffmann-La Roche worth up to $106m.

Helicon Therapeutics of Farmingdale, New York, is pursuing the same target, with competing patents, albeit more slowly. In the mid-1990s the firm's co-founder, Tim Tully, a neuroscientist at Cold Spring Harbor Laboratory of Long Island, New York, performed his own groundbreaking CREB studies in fruit flies. In one particular experiment, Dr Tully and his colleagues compared normal flies with those that had been genetically engineered so that the CREB switch was permanently turned on. While crawling in a small tunnel in the presence of an odour, the insects received an electric shock. Just one such jarring experience was enough to teach the enhanced flies to run away from the same odour in future: they had, in effect, perfect recall, or what is sometimes called “photographic memory” in humans. The normal flies, however, required a total of ten training sessions to learn the same lesson. By the end of this year, Helicon hopes to move one particularly promising compound into clinical trials.

“For thousands of years, people have chewed, brewed or smoked substances in the hopes of boosting their mental abilities.”

You must remember this

Not everyone believes CREB-enhancers will boost human mental performance, however. Among the sceptics is Joe Tsien, director of the Centre for Systems Neurobiology at Boston University, who created a buzz a few years ago when he engineered “Doogie,” a strain of intelligent mice. Dr Tsien points to a study published in the *Journal of Neuroscience* last year, which found that mice with CREB “deleted” from a part of the brain called the hippocampus showed little impairment of long-term memory formation. Moreover, he notes, CREB is not a brain-specific molecule, but is present throughout the body. “That doesn't bode well for the notion that it's a memory switch,” argues Dr Tsien. Even if the drugs work, he adds, nasty side-effects could appear—one of the main reasons promising compounds never make it to the market.

Saegis Pharmaceuticals, based in Half Moon Bay, California, is taking a different approach—three of them, in fact. The company has licensed in three compounds, each one acting on a different pathway in the brain. Moreover, all of them have already demonstrated efficacy in animals, and two of them safety in humans. The company's lead candidate, SGS742, which has just entered a mid-stage clinical trial for Alzheimer's disease, appears to alter brain chemistry in several distinct ways. Most importantly, the drug binds to GABA B receptors, which act as pre-synaptic gatekeepers for various neurotransmitters. By docking on to these receptors, SGS742 blocks their inhibitory actions. This enables many more

neurotransmitter messengers to travel from one nerve cell to another.

Besides pursuing compounds that originated elsewhere, Saegis is busy developing its own drug pipeline. The firm enlisted Michela Gallagher, a research psychologist at Johns Hopkins University, to help identify new drug targets in animal models. Dr Gallagher, who has studied the ageing brains of rats for more than a decade, has developed an elaborate system with which she grades the rats based on their ability to master a variety of cognitive challenges, such as memorising a specific location in a maze. Interestingly, she has found that both humans and rats develop age-related memory loss gradually and in similar proportion. By comparing the gene-expression profiles of rats of different ages and abilities, she has been able to pinpoint over 300 genes that play a part in the process. Because people share those genes, Dr Gallagher reckons her research will hasten the development of memory drugs.

Currently only a handful of drugs to treat Alzheimer's are approved in America, and none for MCI. Most of them prevent the breakdown of acetylcholine, a neurotransmitter. Unfortunately, these medications are not that effective. While patients show small gains on tests, many doctors doubt that the scores translate into meaningful lifestyle improvements, such as the ability to continue living at home. Moreover, the drugs often have unpleasant side-effects, such as nausea and vomiting, which may be why they have failed to interest healthy people. But that could change with the next generation of drugs. Because of their huge market potential, any drug approved for MCI will have to show an immaculate safety profile, predicts Dr Tracy.

For an indication of what might happen if a safe and effective cognitive enhancer were to reach the market, consider the example of modafinil. Manufactured by Cephalon, a biotech company based in West Chester, Pennsylvania, and sold under the names “Provigil” and “Alertec”, the drug is a stimulant that vastly improves alertness in patients with narcolepsy, shift-work sleep disorder and sleep apnea. Since it first reached the market in America in 1999, sales have shot through the roof, reaching $290m in 2003 and expected to grow by at least 30% this year.

Much of the sales growth of modafinil has been driven by its off-label use, which accounts for as much as 90% of consumption. With its amazing safety profile—the side-effects generally do not go beyond mild headache or nausea—the drug is increasingly used to alleviate sleepiness resulting from all sorts of causes, including depression, jet lag or simply working long hours with too little sleep. Cephalon itself is now focusing on moving the drug through late-stage clinical trials for attention deficit hyperactivity disorder in children. Ritalin, an amphetamine now widely used to treat this disorder, is in the same category as morphine for its addictive potential. Most experts believe that modafinil, by contrast, is far less likely to be abused.

Nothing new under the sun

While there are those who scoff at the idea of using a brain-boosting drug, Arthur Caplan, a bioethicist at the University of Pennsylvania in Philadelphia, does not think it would be particularly new, or inherently wrong, to do so. “It's human nature to find things to improve ourselves,” he says. Indeed, for thousands of years, people have chewed, brewed or smoked substances in the hopes of boosting their mental abilities as well as their stamina. Since coffee first became popular in the Arab world during the 16th century, the drink has become a widely and cheaply available cognitive enhancer. The average American coffee drinker sips more than three cups a day (and may also consume caffeine-laced soft drinks).

Prescription drugs, though never intended for widespread use, have followed suit. Ritalin, for example, is used by some college students to increase their ability to study for long hours. Not surprisingly, some worry about the use of such drugs to gain an unfair advantage. Modafinil has already surfaced in doping scandals. Kelli White, an American sprinter who took first place in the 100-metre and 200-metre competitions at last year's World Championships in Paris, later tested positive for the drug. Initially she insisted that it had been prescribed to treat narcolepsy, but subsequently admitted to using other banned substances as well. As a result, she was forced to return the medals she won last year and, along with a handful of other American athletes, was barred from competitions for two years.

Nonetheless, such performance-enhancing properties are exactly why the armed forces have taken an interest in brain-boosting drugs. For soldiers on the battlefield, who may sleep only four hours a night for weeks, a boost in alertness could mean the difference between life and death. Pilots on long missions are also at risk: fatigue means they have slower reaction times and impaired attention spans, says John Caldwell, a research psychologist at the US Air Force Fatigue Countermeasures Branch, who has been studying the effects of sleep deprivation in pilots for a decade. Worst of all, pilots are prone to

“microsleeps”—short, involuntary naps that can last up to 30 seconds. Since the second world war, pilots of American fighter jets have been known to use amphetamines, known as “go pills”, to stop them dozing off at the controls.

But there are drawbacks to amphetamines. Besides their addictive potential, they are strong stimulants, which can prevent soldiers from sleeping when a legitimate opportunity arises. But with modafinil, which has a much more subtle effect on the nervous system, napping is an option, says Dr Caldwell. Last December, America's air force authorised the use of modafinil as an alternative to dextroamphetamine for two-seater bomber missions lasting more than 12 hours. While the drug has not yet been approved for use by solo fighter pilots, approval is expected soon.

Better than coffee?

Last year, Nancy Jo Wesensten, a research psychologist at the Walter Reed Army Institute of Research in Silver Spring, Maryland, compared the effects of three popular alertness drugs—modafinil, dextroamphetamine and caffeine—head to head, using equally potent doses. Forty-eight subjects received one of the drugs, or a placebo, after being awake for 65 hours. The researchers then administered a battery of tests. All of the drugs did a good job restoring wakefulness for six to eight hours. After that, says Dr Wesensten, the performance of the subjects on caffeine declined because of its short half-life (a fact that could be easily remedied by consuming another dose, she points out). The other two groups reached their operational limit after 20 hours—staying awake for a total of 85 hours.

When the researchers looked at the drugs' effects on higher cognitive functions, such as planning and decision-making, they found each drug showed strengths and weaknesses in different areas. Caffeine was particularly effective in boosting a person's ability to estimate unknown quantities. When asked 20 questions that required a specific numeric answer—such as “how high off a trampoline can a person jump?”—92% of volunteers on caffeine and 75% on modafinil showed good estimation skills. But only 42% on dextroamphetamine did so—the same proportion as the sleep-deprived subjects who had received a placebo.

The Defence Advanced Research Projects Agency (DARPA), the research arm of America's defence department, is funding an initiative to find new and better ways to sustain performance during sleep deprivation. Among its collaborators are Yaakov Stern, a neuroscientist, and Sarah Lisanby, a psychiatrist, both of Columbia University. Using functional magnetic-resonance imaging, Dr Stern has been observing the brains of healthy volunteers before and after forgoing sleep.

In the process, he has discovered a neural circuit that is linked to prolonged periods of wakefulness while performing memory tasks. Interestingly, its areas of activation vary from person to person, depending on the ability to tolerate sleep deprivation. Dr Lisanby is an expert in transcranial magnetic stimulation, the use of strong magnetic fields to facilitate or impede the communication of nerve cells using a coil held close to the head. She now plans to test stimulating the very regions in the brain that appear to correspond to better cognitive performance during long hours of wakefulness.

DARPA is also supporting the research of Samuel Deadwyler, a neuroscientist at Wake Forest University in Winston-Salem, North Carolina, who is studying the effects of ampakines, so called because they bind to AMPA receptors. There, they amplify the actions of glutamate, a neurotransmitter involved in two-thirds of all brain communications. Roger Stoll, the boss of Cortex Pharmaceuticals, which has been developing the compounds, has called them “a hearing aid for the brain”.

According to Dr Deadwyler's tests in primates, Cortex's new drug candidate, CX717, which just entered human clinical trials, appears to eliminate the cognitive deficits that go hand in hand with sleep loss. Monkeys deprived of sleep for 30 hours and then given an injection of the compound even do slightly better in short-term memory tests than well-rested monkeys without the drug. And unlike amphetamines, which put the whole body in a state of alert, CX717 only increases activity in key brain areas—without any addictive potential.

What pills cannot do

Drugs that can boost wakefulness or provide a short-term improvement in mental agility exist today, and seem likely to proliferate in future. But since coffee does both already—caffeine is humanity's most

widely consumed drug—there is little reason to object to this state of affairs, provided no laws are broken and the risks of side-effects or addiction are minimal.

Besides, cognitive enhancers merely improve the working of the brain: they cannot help people remember something they never learned in the first place. No single pill will make you a genius, says Fred Gage, a neuroscientist at the Salk Institute in California, as there is no pharmaceutical substitute for a rich learning environment. In experiments with genetically identical mice, he found that the ones brought up with lots of toys and space had 15% more neurons in an area of the brain important for memory formation. And the brain had not just created more cells: fewer of them were dying off. “Any pill coming down the road”, says Dr Gage, “is going to be taken in the context of how you behave.”

And too much enhancement might even be counter-productive—at least for healthy people. As Dr Kandel and his colleague Larry Squire, of the University of California, San Diego, point out in their book “Memory: From Mind to Molecules”, there is a reason why the brain forgets things: to prevent cluttering up our minds. People with the natural ability to remember all sorts of minute details often get bogged down in them, and are unable to grasp the larger concepts. So it remains to be seen whether a pill can be any more effective than a good night's sleep and a strong cup of coffee.

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CASE HISTORY

How Google works

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AP

Internet searching: With all the fuss over Google's IPO, it is easy to overlook its broader social significance. For many people, Google made the internet truly useful. How did it do it?

ONE thing that distinguishes the online world from the real one is that it is very easy to find things. To find a copy of *The Economist* in print, one has to go to a news-stand, which may or may not carry it. Finding it online, though, is a different proposition. Just go to Google, type in “economist” and you will be instantly directed to economist.com. Though it is difficult to remember now, this was not always the case. Indeed, until Google, now the world's most popular search engine, came on to the scene in September 1998, it was not the case at all. As in the physical world, searching online was a hit-or-miss affair.

Google was vastly better than anything that had come before: so much better, in fact, that it changed the way many people use the web. Almost overnight, it made the web far more useful, particularly for non-specialist users, many of whom now regard Google as the internet's front door. The recent fuss over Google's stockmarket flotation obscures its far wider social significance: few technologies, after all, are so influential that their names become used as verbs.

Google began in 1998 as an academic research project by Sergey Brin and Lawrence Page, who were then graduate students at Stanford University in Palo Alto, California. It was not the first search engine, of course. Existing search engines were able to scan or “crawl” a large portion of the web, build an index, and then find pages that matched particular words. But they were less good at presenting those pages, which might number in the hundreds of thousands, in a useful way.

Mr Brin's and Mr Page's accomplishment was to devise a way to sort the results by determining which pages were likely to be most relevant. They did so using a mathematical recipe, or algorithm, called PageRank. This algorithm is at the heart of Google's success, distinguishing it from all previous search engines and accounting for its apparently magical ability to find the most useful web pages.

Untangling the web

PageRank works by analysing the structure of the web itself. Each of its billions of pages can link to other pages, and can also, in turn, be linked to. Mr Brin and Mr Page reasoned that if a page was linked to

many other pages, it was likely to be important. Furthermore, if the pages that linked to a page were important, then that page was even more likely to be important. There is, of course, an inherent circularity to this formula—the importance of one page depends on the importance of pages that link to it, the importance of which depends in turn on the importance of pages that link to them. But using some mathematical tricks, this circularity can be resolved, and each page can be given a score that reflects its importance.

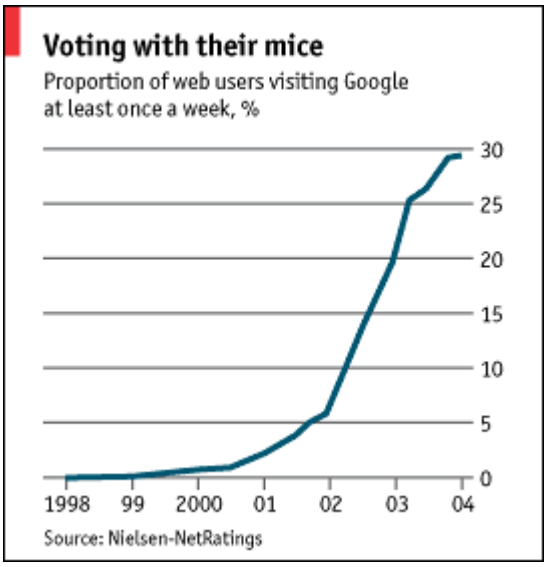
The simplest way to calculate the score for each page is to perform a repeating or "iterative" calculation (see article). To start with, all pages are given the same score. Then each link from one page to another is counted as a "vote" for the destination page. Each page's score is recalculated by adding up the contribution from each incoming link, which is simply the score of the linking page divided by the number of outgoing links on that page. (Each page's score is thus shared out among the pages it links to.)

Once all the scores have been recalculated, the process is repeated using the new scores, until the scores settle down and stop changing (in mathematical jargon, the calculation "converges"). The final scores can then be used to rank search results: pages that match a particular set of search terms are displayed in order of descending score, so that the page deemed most important appears at the top of the list.

While this is the simplest way to perform the PageRank calculation, however, it is not the fastest. Google actually uses sophisticated techniques from a branch of mathematics known as linear algebra to perform the calculation in a single step. (And the actual PageRank formula, still visible on a Stanford web page includes an extra "damping factor" to prevent pages' scores increasing indefinitely.)

Furthermore, the PageRank algorithm has been repeatedly modified from its original form to prevent people from gaming the system. Since Google's debut in 1998, the importance of a page's Google ranking, particularly for businesses that rely on search engines to send customers their way, has increased dramatically: Google is now responsible for one in three searches on the web. For this reason, an entire industry of "search-engine optimisers" has sprung up. For a fee, they will try to manipulate your page's ranking on Google and other search engines.

The original PageRank algorithm could be manipulated in a fairly straightforward fashion, by creating a "link farm" of web pages that link to one another and to a target page, and thus give an inflated impression of its importance. So Google's original ranking algorithm has grown considerably more complicated, and is now able to identify and blacklist pages that try to exploit such tricks.



Mr Page and Mr Brin made another important innovation early on. This was to consider the "anchor text"—the bit of text that is traditionally blue and underlined and forms a link from one page to another—as a part of the web page it referred to, as well as part of the page it was actually on. They reasoned that the anchor text served as an extremely succinct, if imprecise, summary of the page it referred to. This further helps to ensure that when searching for the name of a person or company, the appropriate website appears at the top of the list of results.

Ranking the order in which results are returned was the area in which Google made the most improvement, but it is only one element of search—and it is useless unless the rest of the search engine works efficiently. In practice, that means compiling a comprehensive and up-to-date index of the web's ever-changing pages. PageRank sits on top of Google's extremely powerful and efficient search infrastructure—one that draws on the lessons learned from previous, and now mostly forgotten, search engines.

As the web grew in the early 1990s, a number of search engines, most of them academic research projects, started crawling and indexing its pages. The first of these, the World Wide Web Wanderer and the World Wide Web Worm, used very simple techniques, and did not even index entire web pages, but only their titles, addresses and headers. A number of commercial engines followed, springing out of academic projects (as Google later did). WebCrawler, the first to index entire pages, emerged in 1994 at the University of Washington and was later bought by America Online. It was followed by Lycos and InfoSeek. But the first really capable search engine was AltaVista, unveiled by Louis Monier of Digital Equipment Corporation in December of 1995.

The day before the site opened for business, on December 15th, it already had 200,000 visitors trying to use it. That was because AltaVista successfully met two of the three requirements that later led to Google's success. First, it indexed a much larger portion of the web than anything that had come before. This, says Dr Monier, was because AltaVista used several hundred “spiders” in parallel to index the web, where earlier search engines had used only one. Second, AltaVista was fast, delivering results from its huge index almost instantly. According to Dr Monier, all earlier search engines had been overwhelmed as soon as they became popular. But the AltaVista team had used a modular design right from the start, which enabled them to add computing power as the site's popularity increased. Among some geeks, at least, AltaVista came into use as a verb.

Seek, and Google shall find

Even so, AltaVista still lacked Google's uncanny ability to separate the wheat from the chaff. Experienced users could use its various query options (borrowed from the world of database programming) to find what they were looking for, but most users could not. Although AltaVista's unprecedented reach and speed made it an important step forward, Google's combination of reach, speed and PageRank added up to a giant leap.

When you perform a Google search, you are not actually searching the web, but rather an index of the copy of the web stored on Google's servers. (Google is thought to have several complete copies of the web distributed across servers in California and Virginia.) The index is compiled from all the pages that have been returned by a multitude of spiders that crawl the web, gathering pages, extracting all the links from each page, putting them in a list, sorting the links in the list in order of priority (thus balancing breadth and depth) and then gathering the next page from the list.

“Can Google stay on top as search, the activity where it is strongest, moves from centre stage to being just part of a bundle of services?”

When a user types in a query, the search terms are looked up in the index (using a variety of techniques to distribute the work across tens of thousands of computers) and the results are then returned from a separate set of document servers (which provide preview “snippets” of matching pages from Google's copies of the web), along with advertisements, which are returned from yet another set of servers. All of these bits are assembled, with the help of PageRank, into the page of search results. Google manages to do this cheaply, in less than a second, using computers built from cheap, off-the-shelf components and linked together in a reliable and speedy way using Google's own clever software. Together, its thousands of machines form an enormous supercomputer, optimised to do one thing—find, sort and extract web-based information—extremely well.

Mr Page and Mr Brin created the prototype of Google on Stanford's computer systems. However, as visionaries do, they thought ahead clearly, and from the beginning had sound ideas both for searching and for creating the system of servers capable of handling the millions of queries a day that now pass through Google. It was the clarity of their ideas for scaling the server architecture, and their ability to think big, that made it so easy for them to turn their research project into a business. Andy Bechtolsheim, one of the founders of Sun Microsystems and an early investor in Google, did not even wait to hear all the details: when Mr Page and Mr Brin approached him, he reputedly said, “Why don't I just write you a cheque for $100,000?” He wrote the cheque to “Google Inc.”—a firm which did not yet exist. So Mr Page and Mr Brin were forced to incorporate a business very quickly, and the company was born.

What was still missing, though it was unfashionable to worry about it in the early days of the dotcom boom, was a way of making money. Initially, Google sold targeted banner advertisements and also made money by providing search services to other websites, including Yahoo! and a number of other, smaller portals. But, says John Battelle, a professor at the University of California, Berkeley, who is writing a book about search engines, Google's revenues did not really take off until 2000, when it launched AdWords—a system for automatically selling and displaying advertisements alongside search results.

Advertisers bid for particular search terms, and those who bid the highest for a particular term—“digital cameras”, say—have their text advertisements displayed next to Google's search results when a user searches for that term. Google does not simply put the highest bidder's advertisement at the top of the list, however. It also ranks the advertisements according to their popularity, so that if more people click on an advertisement halfway down the list, it will be moved up, even if other advertisers are paying more. Google's philosophy of ranking results according to their usefulness is thus applied to

advertisements too.

The only fly in the ointment, from Google's point of view, was that Overture, a rival firm, claimed to have patented the idea for AdWords-style sponsored links. Overture filed a lawsuit against Google in 2002: it was settled out of court last month when Google agreed to give Yahoo! (which acquired Overture last year) 2.7m shares, worth around $230m, to resolve the matter. Google was eager to settle the AdWords dispute before its initial public offering, which took place on August 19th.

Google now faces a three-way fight with Yahoo! and Microsoft, which have both vowed to dethrone it as the dominant internet search engine. Yahoo!'s strategy is to interconnect its various online services, from search to dating to maps, in increasingly clever ways, while Microsoft's plan is to integrate desktop and internet searching in a seamless manner, so that search facilities will be embedded in all its software, thus doing away (the company hopes) with the need to use Google. Both firms are also working to improve their basic search technology in order to compete with Google.

Beyond searching?

In response, Google has gradually diversified itself, adding specialist discussion groups, news and shopping-related search services, and a free e-mail service, Gmail, which is currently being tested by thousands of volunteers. It has also developed “toolbar” software that can be permanently installed on a PC, allowing web searches to be performed without having to visit the Google website, and establishing a toe-hold on its users'PCs.

Google's technical credentials are not in doubt. The question is whether it can maintain its position, as search, the activity where it is strongest, moves from centre stage to being just part of a bundle of services. Yet the example of Gmail shows how search can form the foundation of other services: rather than sorting mail into separate folders, Gmail users can simply use Google's lightning-fast search facility to find a specific message. So the technology that made Google great could yet prove to be its greatest asset in the fight ahead. Let battle commence.

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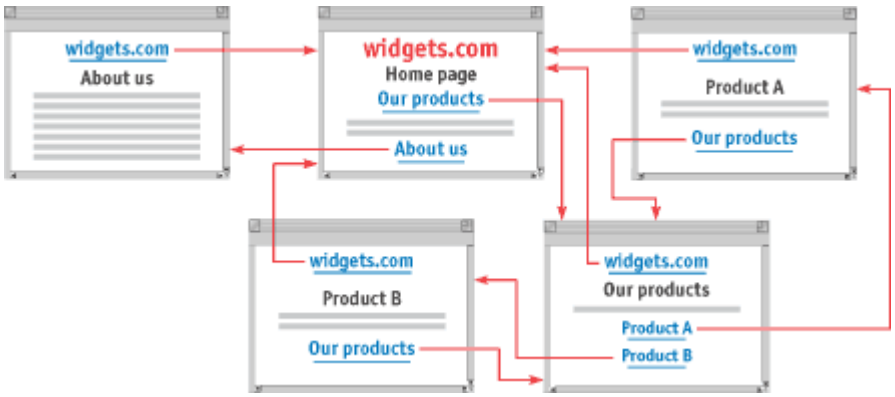
CASE HISTORY

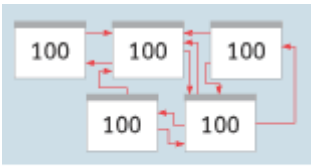
How PageRank works

Sep 16th 2004
From The Economist print edition

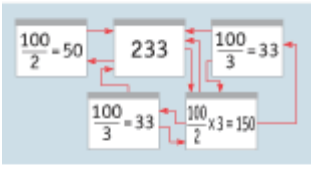


1. Google's PageRank algorithm is a mathematical recipe that uses the structure of the links between web pages to assign a score to each page that reflects its importance. In effect, each link from one page to another is counted as a "vote" for the destination page, and each page's score depends on the scores of the pages that link to it. But those pages' scores, in turn, depend on the scores of the pages that link to them, and so on. As a result, calculating the scores is a complicated business.

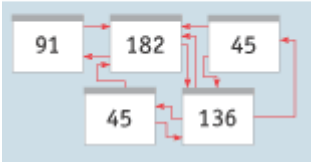
2. Initially, all pages are given the same score (in this case, 100 points).



3. Each page's score is recalculated by adding up the score from each incoming link, which is simply the score of the linking page divided by the number of outgoing links. The "About us" page, for example, has one incoming link, from the "Home" page. The "Home" page has two outgoing links, so its score of 100 is shared equally between them. The "About us" page therefore ends up with a score of 50. Similarly, the "Our products" page has three incoming links. Each comes from a page with two outgoing links, and therefore contributes 50 to the "Our products" page's total score of 150.



4. Once all the scores have been recalculated, the process is repeated using the new scores, until the scores stop changing. In fact, Google uses sophisticated mathematical techniques to speed up the calculation, rather than performing multiple calculations across the entire web.



5. The final scores are used to rank the results of a search, which are displayed in order of descending score. The "Home" page ends up with the highest score, so that searching for "Widgets.com", which appears on every page, produces a list with the "Home" page at the top. Similarly, searching for "Product A" or "Product B" produces a list with the "Our products" page at the top, since this page has a higher score than either of the individual product pages.

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REPORTS

Down on the pharm

Sep 16th 2004
From The Economist print edition

Biotechnology: Will genetically engineered goats, rabbits and flies be the low-cost drug factories of the future?

EARLIER this year, the regulators at the European Medicines Agency (EMEA) agreed to consider an unusual new drug, called ATryn, for approval. It was developed to treat patients with hereditary antithrombin deficiency, a condition that leaves them vulnerable to deep-vein thrombosis. What makes ATryn so unusual is that it is a therapeutic protein derived from the milk of a transgenic goat: in other words, an animal that, genetically speaking, is not all goat.

The human gene for the protein in question is inserted into a goat's egg, and to ensure that it is activated only in udder cells, an extra piece of DNA, known as a beta-caseine promoter, is added alongside it. Since beta caseine is made only in udders, so is the protein. Once extracted from the goat's milk, the protein is indistinguishable from the antithrombin produced in healthy humans. The goats have been carefully bred to maximise milk production, so that they produce as much of the drug as possible. They are, in other words, living drug factories.

ATryn is merely the first of many potential animal-derived drugs being developed by GTC Biotherapeutics of Framingham, Massachusetts. The company's boss, Geoffrey Cox, says his firm has created 65 potentially therapeutic proteins in the milk of its transgenic goats and cows, 45 of which occurred in concentrations of one gram per litre or higher.

Female goats are ideal transgenic “biofactories”, GTC claims, because they are cheap, easy to look after and can produce as much as a kilogram of human protein per year. All told, Dr Cox reckons the barn, feed, milking station and other investments required to make proteins using transgenic goats cost less than $10m—around 5% of the cost of a conventional protein-making facility. GTC estimates that it may be able to produce drugs for as little as $1-2 per gram, compared with around $150 using conventional methods. Goats' short gestation period—roughly five months—and the fact that they reach maturity within a year means that a new production line can be developed within 18 months. And increasing production is as simple as breeding more animals. So if ATryn is granted approval, GTC should be able to undercut producers of a similar treatment, produced using conventional methods, sales of which amount to $250m a year.

GTC is not the only game in town, however. Nexia, based in Montreal, is breeding transgenic goats to produce proteins that protect against chemical weapons. TransOva, a biotech company based in Iowa, is experimenting with transgenic cows to produce proteins capable of neutralising anthrax, plague and smallpox. Pharming, based in the Netherlands, is using transgenic cows and rabbits to produce

therapeutic proteins, as is Minos BioSystems, a Greek-Dutch start-up which is also exploring the drugmaking potential of fly larvae.

It all sounds promising, but the fact remains that medicines derived from transgenic animals are commercially untested, and could yet run into regulatory, safety or political problems. At the same time, with biotechnology firms becoming increasingly risk-averse in response to pressure from investors and threats of price controls from politicians, transgenic animal-derived medicines might be exactly what the pharmaceuticals industry is lacking: a scalable, cost-effective way to make drugs that can bring products to market within a decade or so, which is relatively quick by industry standards.

Just say no to Frankendrugs?

So a great deal depends on the EMEA's decision, particularly given previous European scepticism towards genetically modified crops. But as far as anyone can tell, the signs look promising. In a conference call in August, Dr Cox told analysts that the EMEA had so far raised no concerns about the transgenic nature of his firm's product.

But as the fuss over genetically modified crops showed, public opinion is also important. While some people may regard the use of animals as drug factories as unethical, however, the use of genetic engineering to treat the sick might be regarded as more acceptable than its use to increase yields and profits in agriculture. Conversely, tinkering with animal genes may be deemed to be less acceptable than tinkering with plant genes. A poll conducted in America in 2003 by the Pew Initiative on Food and Biotechnology found that 81% of those interviewed supported the use of transgenic crops to manufacture affordable drugs, but only 49% supported the use of transgenic animals to make medicines.

“Transgenic animals could be just what the pharmaceuticals industry needs: a fast, scalable and cost-effective way to make drugs.”

Even some biotech industry executives are unconvinced that medicines made primarily from animal-derived proteins will ever be safe enough to trust. Donald Drakeman of Medarex, a firm based in Princeton, New Jersey, is among the sceptics. His firm creates human antibodies in transgenic mice, clones the antibodies and then uses conventional processes to churn out copies of the antibodies by the thousand. “With goat and cow milk, especially, I worry about the risk of animal viruses and prions being transferred in some minute way,” he says. (Bovine spongiform encephalitis, or “mad cow disease”, is thought to be transmitted by a rogue form of protein called a prion.)

Another concern, raised by lobby groups such as Greenpeace and the Union of Concerned Scientists, is that transgenic animals might escape into the wild and contaminate the gene pool, triggering all kinds of unintended consequences. There is also concern that an animal from the wild could find its way into GTC's pens, make contact with one of the transgenic animals, and then escape to “expose” other animals in the wild. Or what if the transgenic animals somehow got into the human food chain?

Short of sabotage, none of these scenarios seems very likely, however. Since transgenic goats, for example, are living factories whose worth depends on their producing as much milk as possible, every measure is taken to keep them happy, healthy, well fed and sequestered from non-transgenic animals. As animals go, goats and cows are relatively unadventurous creatures of habit, are more easily hemmed in than horses, and are usually in no mood to run away when pregnant—which they are for much of the time at places like GTC and TransOva.

The uncertainty over regulatory and public reactions is one of the reasons why, over the past four years, at least two dozen firms working to create drugs from transgenic animals have gone bust. Most were in Europe. GTC, which leads the field, has nothing to worry about, however, since it is sitting on around $34m in cash. Also sitting pretty is Nexia, particularly since it began to focus on the use of transgenic animals to make medicines that can protect against nerve agents.

Nexia became known as the spider-silk company, after it created transgenic goats capable of producing spider silk (which is, in fact, a form of protein) in their milk. It is now working to apply the material, which it calls BioSteel, in medical applications. Using the same approach, the company has now developed goats whose milk contains proteins called bioscavengers, which seek out and bind to nerve agents such as sarin and VX. Nexia has been contracted by the US Army Medical Research Institute of Chemical Defence and DRDC Suffield, a Canadian biodefence institute, to develop both prophylactic and therapeutic treatments. Nexia believes it can produce up to 5m doses within two years.

Today, the most common defence against nerve agents is a post-exposure “chem-pack” of atropine, which works if the subject has genuinely been exposed to a nerve agent, but produces side-effects if they have not. “You do not want to take this drug if you haven't been exposed,” says Nexia's chief executive, Jeff Turner. The problem is that it is not always possible to tell if someone has been exposed or not. But Nexia's treatment, says Dr Turner, “won't hurt you, no matter what.”

The buzz around flies

But perhaps the most curious approach to making transgenic-animal-derived medicines is that being taken by Minos BioSystems. It is the creation of Roger Craig, the former head of biotechnology at ICI, a British chemical firm, and his colleagues Frank Grosveld of Erasmus University in the Netherlands and Babis Savakis of the Institute of Molecular Biology and Biotechnology in Crete. While others concentrate on goats, Minos is using flies. “Mice won't hit scale, cows take too damn long to prepare for research, GM plants produce GM pollen that drifts in the wind, chickens have long-term stability of germ-line expression issues, and they carry viruses and new strains of 'flu—I quite like flies, myself,” says Dr Craig.

A small handful of common house flies, he says, can produce billions of offspring. A single fly can lay 500 eggs that hatch into larvae, a biomass factory capable of expressing growth hormone, say, or antibodies, which can then be extracted from the larval serum. The set-up cost of producing antibodies using flies would, Dr Craig estimates, be $20m-40m, compared with $200m to $1 billion using conventional methods. “In addition to getting some investors, the key here is gaining regulatory and pharma acceptance of the idea that flies have to be good for something,” he says. This will take time, he admits, and could be a hard sell. But if the idea of using transgenic goats to make drugs takes hold, flies might not be such a leap.

For the time being, then, everything hinges on GTC's goats. The EMEA's verdict is expected before the end of the year. Yet even if Dr Cox wins final approval to launch ATryn next year, he too faces a difficult task convincing the sceptics that transgenic animals are a safe, effective and economical way to make drugs. As Monsanto and other proponents of genetically modified crops have learned in recent years, it takes more than just scientific data to convince biotech's critics that their fear and loathing are misplaced.

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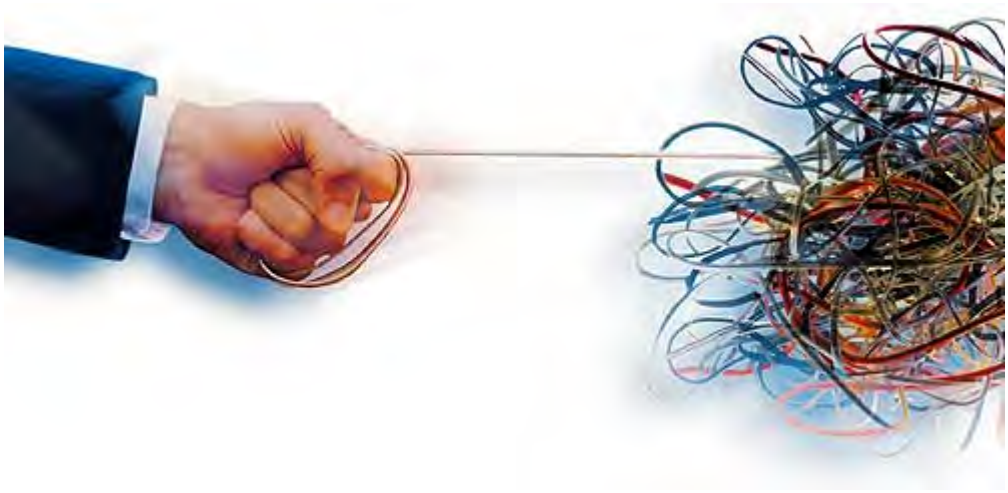
REPORTS

Untangling ultrawideband

Sep 16th 2004
From The Economist print edition



Consumer electronics: Which technology will prevail in the battle to banish the spaghetti behind your TV and computer?

AS ANYONE who has set up a Wi-Fi wireless computer network in their home will attest, there is something extraordinarily liberating about surfing the internet without wires. Perhaps it is because computers, unlike telephones (which went wireless, or at least cordless, a few years ago), always seem to gather a complicated tangle of cables around them. Similarly, another wireless technology, Bluetooth, is starting to do away with the cables between mobile phones and laptops. But other wires stubbornly resist replacement by wireless technology, particularly those that carry video signals—from a DVD player to a television, for example, or from a camcorder to a PC.

Partly, that is because beaming video around reliably requires a higher rate of data transfer than Wi-Fi or Bluetooth can provide. Another problem is that, as wireless transmission speeds increase, so too does power consumption. Wi-Fi-enabled handheld computers, for example, need to be recharged every day, whereas mobile phones, which transfer data much more slowly, can run for a week between charges. The ideal cable-replacement technology, then, would combine blazing speed with low power consumption. And that explains the current interest in an unusual wireless technology called “ultrawideband” (UWB).

UWB has been around for many years in various forms. But in the next few months it will finally make its first appearance in consumer-electronics products. This ought to be cause for rejoicing, for UWB is a low-power technology that supports data-transfer rates measured in hundreds of megabits per second over short distances (such as between two devices in the same room). UWB thus has the potential to do away with the spaghetti behind computers and home-entertainment systems. It will allow camcorders and digital cameras to beam images directly to televisions or PCs. It could even enable your computer to update your portable music player with your latest downloads automatically as you walk past.

There is just one small problem: the consumer-electronics industry is riven by disagreement, akin to the fight between VHS and Betamax video formats, over which of two versions of UWB to adopt. In one corner is the UWB Forum, which has fewer supporters, but whose products will reach the market later this year. In the other corner is the Multiband OFDM Alliance (MBOA), which has a far more impressive list of backers, but whose products will not reach the market until the end of 2005 at the earliest. Both sides claim that their version of UWB is superior and will win in the marketplace. But the ironic result is that the great untangler—the technology that was supposed to do away with rats' nests of cables—is itself tangled up in a standards war.

Widespread appeal

The two incarnations of UWB are variations on the same highly unusual technological theme. Unlike conventional radio transmitters, which transmit on a particular frequency and which cannot be picked up if the receiver is slightly mistuned, UWB devices broadcast at very low power over an extremely wide band of frequencies. This has the advantage that UWB signals can be picked up by suitably designed receivers, but resemble background noise to conventional radio receivers, which are listening on one particular frequency. Conventional and UWB radios can therefore coexist. And that is why America's telecoms regulator, the Federal Communications Commission (FCC), ruled in February 2002 that UWB devices could operate across a broad swathe of the radio spectrum, from 3.1GHz to 10.6GHz, without requiring spectrum licences.

This unusual approach makes UWB very different from Wi-Fi and Bluetooth, two other unlicensed radio technologies. Rather than operating (as Wi-Fi and Bluetooth do) in unlicensed “garbage bands”, the radio equivalent of unused wasteland, UWB devices operate across frequency bands that are already licensed for various other purposes, including satellite broadcasts, global-positioning systems and telematics. By keeping power levels low, however, UWB devices can co-exist with these existing systems—an approach known as “underlay access”. Where Wi-Fi exploits the radio equivalent of wasteland, UWB is like being able to build underground. Its novel approach liberates huge amounts of hitherto untapped transmission capacity.

The two sides in the UWB standards war disagree over how best to spread signals out over the radio spectrum, however. The approach favoured by the UWB Forum is called direct-sequence ultrawideband (DS-UWB). A stream of data is combined with a constantly changing pseudo-random code to produce a wideband signal that resembles random background noise. But a receiver armed with the same pseudo-random code can “de-spread” the signal—in effect, plucking it from the background hiss.

UWB chips based on this principle were developed by XtremeSpectrum, a start-up based in Vienna, Virginia. Its UWB assets were then acquired by Freescale, the former chipmaking arm of Motorola, a telecoms-equipment maker. Freescale's first UWB chip, capable of transmitting data at 110 megabits per second, was approved by the FCC in August and is now being shipped to consumer-electronics firms. Martin Rofheart, the co-founder of XtremeSpectrum and now the head of Freescale's UWB operation, says a faster chip, capable of 220 megabits per second, will be ready by the end of the year, with 480-megabit and 1-gigabit chips to follow in 2005.

The rival approach, backed by the MBOA, is called multiband orthogonal frequency-division multiplexing (MB-OFDM). It differs from DS-UWB in several ways. For one thing, rather than spreading an ultrawideband signal right across the allowed UWB frequency range, it divides the range up into 15 bands, each of which is still extremely wide by the standards of conventional radio technology, and constantly hops from one to another. Within each band, the encoding of data is done using a trendy technique called OFDM, which uses elaborate signal-processing techniques to sprinkle information into 128 sub-bands to produce a signal that resembles random noise but can be decoded using a clever-enough receiver.

Eric Broockman of Alereon, a start-up based in Texas that is one of the founders of the MBOA, says prototype chips based on this approach will be available later this year. They will operate at 480 megabits per second and will appear in consumer products by the end of 2005.

So, which technology is better? From a technical standpoint, both have their pros and cons. MB-OFDM is so computationally intensive that it requires ten times as much power as DS-UWB, claims Dr Rofheart, and is therefore less suitable for use in portable devices. And while Freescale's production lines are already up and running, the MB-OFDM camp has yet to produce a prototype—which means, says Dr Rofheart, that they are two years behind, given typical development times for wireless chips. And, he says, MB-OFDM's frequency-hopping approach could cause interference with existing radio systems, and may violate the FCC's rules.

Inevitably, Mr Broockman disputes all of this. Calculations suggest that the MB-OFDM approach will be perfectly suitable for use in portable devices, he says. Freescale is ahead, Mr Broockman concedes, but by six months, not two years. And the interference question is a matter of interpretation that will be cleared up when the FCC clarifies its rules. Besides, says Mr Broockman, all that elaborate signal processing makes MB-OFDM very robust in noisy environments—and UWB devices, by definition, operate in noisy environments, since they have to co-exist with existing radio technologies. And the multiband,

frequency-hopping approach means the technology can be more easily adapted for use in different parts of the world, where regulators are likely to apply different rules to UWB.

In short, DS-UWB has the advantage of being available now, while MB-OFDM is technically more elegant, but is not ready yet. “This is not a race to write a specification, but to deliver functionality,” says Dr Rofheart. “They are ahead with a Model T, and we are pulling up with a Ferrari,” retorts Mr Broockman.

All of this has led to deadlock at the body that has been trying to devise a standard for UWB, the so-called 802.15.3 committee at the Institute of Electrical and Electronics Engineers (IEEE). Neither side has been able to garner the necessary 75% support, and things seem likely to stay that way. But there are three kinds of standards, notes Mr Broockman. There are official standards, such as those drawn up by the IEEE; there are industry standards, where big firms team up and agree to adopt a technology (as happened with Bluetooth, for example); and there are de facto standards, decided in the marketplace, as happened with the “Wintel” standard in the PC industry. With deadlock at the IEEE, the MBOA is taking the industry-standard approach, while the UWB Forum is hoping to establish a de facto standard.

And while the UWB Forum has the advantage of having got to market first, the MBOA has far more powerful backers. Its members include chipmaking giants such as Intel and Texas Instruments, consumer-electronics firms including Sony, Matsushita, Philips and Samsung, and other heavyweights including Microsoft, Hewlett-Packard and Nokia. The members of the rival UWB Forum, in contrast, are rather less well known: its most prominent backer is Freescale. That suggests that DS-UWB will have the market to itself for a few months, but will then succumb to the MBOA steamroller. Dr Rofheart, however, claims that many members of the MBOA, including some large consumer-electronics firms, are already testing his firm's chips, and are ready to switch camps.

The dark horse

While the two technologies fight it out, however, there is a third possibility: that a forthcoming form of Wi-Fi, a high-speed technology called 802.11n, might benefit from the confusion and end up stealing some or all of the market for UWB technology. Existing versions of Wi-Fi are already appearing in some consumer-electronics devices. “UWB has a 50-50 shot at the mass market,” says Rajeev Chand of Rutberg & Company, an investment bank in San Francisco. UWB has greater bandwidth and consumes less power, he notes, but Wi-Fi is out now, and engineers are very good at taking an inadequate technology and making it good enough. But both camps of UWB supporters insist that Wi-Fi and UWB will co-exist. Wi-Fi, they claim, will be used for piping data around a home network, while UWB will be used to connect devices in the same room.

So it could be a year or two before a clear winner emerges. In the meantime, confusion will reign, and consumers should tread carefully. There is one simple thing that proponents of the rival UWB technologies can do to improve their chances, however. As the successes of Wi-Fi and Bluetooth show, it helps if your technology has a snappy name.

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BRAIN SCAN

Touching the atom

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Scientists' ability to see individual atoms, and manipulate matter one atom at a time, is due in large part to Gerd Binnig, co-inventor of the scanning-tunnelling microscope

THE mad scientist, with his white coat and frizzy hair, is a familiar figure from countless Hollywood movies. Gerd Binnig, by contrast, is a much rarer beast: a gleeful scientist. He is renowned for co-inventing the scanning-tunnelling microscope (STM), a device that allows researchers to examine and manipulate matter at the atomic scale. This invention, made by Dr Binnig in 1981 with his colleagues Heinrich Rohrer and Christoph Gerber, laid the groundwork for nanotechnology, enabled new methods of semiconductor production and generally broadened the understanding of the nature of matter. Yet to Dr Binnig, it was just an opportunity to play around in the laboratory. Indeed, visit the site of his seminal work, IBM's Zurich Research Laboratory, and you will find a cartoon posted on the office wall. It depicts a smiling Dr Binnig, surrounded by equipment and holding up a hand clad in an iron glove, with the caption: “Now I can really feel the atoms!”

The characteristic playfulness evident in this cartoon is a hallmark of Dr Binnig's career and interests. His life's work has taken him down some unusual paths, but he has had a lot of fun along the way. The ideas that led to the STM, and thence to the 1986 Nobel prize in Physics, came mere months into Dr Binnig's work at IBM, which he joined under Dr Rohrer in 1978. Good-natured cartoons are usually a sign of being held in fond esteem, and Dr Binnig is indeed well liked, not least because he is quick to deflect individual praise and cite the work and help of others. It was Dr Rohrer who set him the task of building a device that could detect tiny defects in thin films of material—a problem that IBM was trying to overcome in order to build faster computers. But while Dr Binnig collaborated closely with other physicists at IBM to conceive and build the STM, the key ideas were his, says Dr Gerber.

In particular, Dr Binnig solved a couple of significant problems that had plagued previous efforts to see atoms. He devised a cunningly simple mechanical approach that involves scanning the fine tip of the microscope's probe—just a ten-billionth of a metre wide, or about the width of an atom—across the surface being studied. Even though the tip does not touch the surface, a quantum-mechanical effect called “tunnelling” causes an electric current to pass between them. By measuring this current and adjusting the tip's position as it travels across the surface, the distance between the tip and the surface can be kept constant. The record of the tip's movements can then be turned into an image of the surface's contours—an image so detailed that the lumps and bumps of individual atoms are visible. Dr Binnig's second innovation was the clever method he devised to keep the probe stable, using the ingenious combination of a vacuum chamber, superconducting levitation and Scotch tape.

To be sure, the STM was not the beginning of atomic-scale microscopy. Ernst Ruska, who would share the Nobel with Dr Binnig and Dr Rohrer, invented the first electron microscope in 1931, while still a graduate student at the Technical College of Berlin. Erwin Mueller of Pennsylvania State University, who invented the field-ion microscope in 1951, became the first person to “see” atoms. But Dr Mueller was secretive and his results were difficult to reproduce. In the late 1960s one of his students, Russell Young, working at America's National Bureau of Standards, developed a device called the Topografiner, which has been called a precursor to the STM. And in the 1970s, Albert Crewe of the University of Chicago built a “scanning transmission electron microscope” and used it to create an image of a single uranium atom.

But compared with the STM, previous atomic-resolution microscopes were difficult to use and had particular problems with surface atoms, which tended to interact with the tip of the probe, thus distorting the results. Dr Gerber says only a “genius” like Dr Binnig could have had the idea for the STM: he puts his

“One young researcher sighs to a visitor that

colleague on a par with Einstein, Schrödinger or Feynman, with a talent for experimentation that matches those great scientists' ability as theorists. The STM was also significant because other scientists were able to build their own relatively easily, recalls Don Eigler, now also a research fellow at IBM but a graduate student at the time of the STM's invention. It is also quite an inexpensive device: atomic resolution can be achieved for just $20,000.

any session with Dr Binnig means hearing far more ideas than one could possibly pursue."

Dr Binnig's talent almost went unrealised. Born in 1947, he studied physics, but found the conventional approach to teaching the subject tedious. It was dry, textbook stuff, revealing none of the mis-steps, mystery and mess that constitute the drama and delight of scientific discovery. And it was only after serious reflection, anxious discussions with his wife and some time on the excellent football field near the Zurich laboratory that Dr Binnig finally decided to go to work for IBM. But once there, he thrived in its free-wheeling research environment.

That Dr Binnig's design made sense, let alone that it would become so successful, was far from obvious: some people said it could not possibly work. Indeed, even Dr Binnig's fellow physicists at IBM were initially dubious. "People thought I was crazy," Dr Binnig recalls. There were whispers that Dr Rohrer might have hired the wrong man. Initially, Dr Binnig had to steal time to work on the tunnelling idea from his other research work. But he managed to convince both Dr Rohrer, who gave the project his support, and Dr Gerber, who immediately saw that Dr Binnig's counterintuitive approach had the potential to generate extremely high-resolution images.

Some might argue that the STM is a mere tool, and is therefore less significant than a theoretical breakthrough in advancing the understanding of nature. But George Whitesides, a distinguished chemist and nanotechnologist at Harvard University, asserts that tools can have enormous influence in shaping scientific progress. Such is the importance of the STM, he suggests, that in the past 50 years only recombinant DNA has had a similar impact. He estimates that some 50 variations on the basic idea of the STM have been devised in various scientific and industrial fields.

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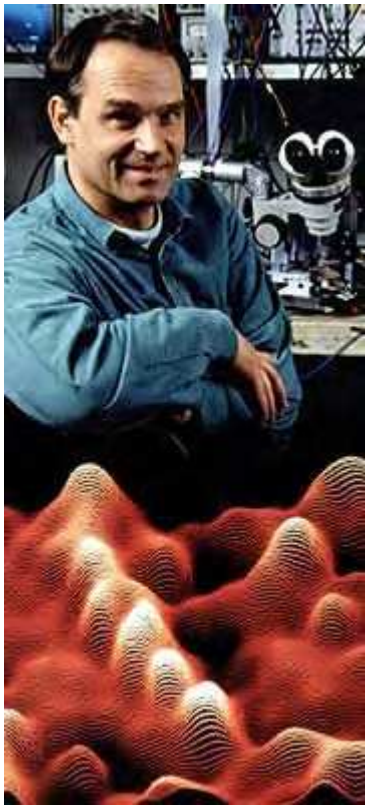

One man and his microscope

Both the STM and its successor, the atomic-force microscope (AFM), have become essential laboratory workhorses for researchers in fields such as lithography, nanotechnology, polymer science and microbiology. Even so, Steve Jurvetson, a Silicon Valley venture capitalist who specialises in nanotechnology, thinks the STM's greatest impact has been as a motivational tool: it has, he says, spurred an entire generation of scientists to think about controlling matter at the atomic scale. Just as the discovery of the structure of DNA transformed biology into an information science, he suggests, the ability to manipulate individual atoms could do the same for physics.

Making the breakthrough of the STM in 1981, at the age of 34, was the start of a difficult time for Dr Binnig. He knew, he says, that he "would never experience anything like it again". In his Nobel lecture he confessed to a period of disillusionment, during which he wondered what he could possibly do next. Dr Rohrer helped him through this difficult time by encouraging him to produce a stream of papers. Together they published the so-called "7x7" paper, which used the STM to reveal the atomic structure of a silicon surface for the first time. Their controversial result was not immediately accepted by other scientists, but its publication generated a flurry of interest in the IBM team's new instrument.

Dr Binnig, Dr Rohrer and Dr Gerber became evangelists for their microscope, opening their laboratory to other scientists and travelling widely to promote their ideas. Their first convert was Calvin Quate, an electrical engineer at Stanford University, who flew to Zurich to see the STM, and later joined with Dr Binnig and Dr Gerber to create the AFM. (Unlike the STM, which can only produce images of conducting or semiconducting materials, the AFM can produce atomic-scale images of non-conducting materials too.)

Whatever next?

Dr Binnig and other IBM researchers subsequently adapted ideas from the AFM to create a nano-mechanical storage device called the Millipede, which uses individual atoms to store and retrieve digital

information. IBM is currently considering how to make this into a commercial product. Now partly retired, Dr Binnig remains an adviser to IBM, and is still very much a creative force. One young researcher working on the Millipede project sighs to a visitor that any session with Dr Binnig means hearing far more ideas than one could possibly pursue.

Dr Binnig thinks nanotechnology will be very important, and must be pursued despite its supposed environmental risks. “There is always a danger any time you do something new. But if you don't do it, there's also a danger,” he says. For instance, he notes that in the very long term, the sun will burn out, dooming humanity—unless some clever, playful scientist can figure out a way to manage without it, that is.

Another of Dr Binnig's interests, and something that he believes could end up being even more important than the STM, is fostering creativity in computers. His aim is not to create artificial intelligence, a term Dr Binnig dislikes, but systems capable of creativity and deduction. In 1989 he published a book on creativity which was well received, and in 1994 he helped to found a start-up, now called Definiens, to develop software to emulate human thought processes. The company's first products, which are designed to spot patterns in large volumes of data, are being applied in the field of bioinformatics. With characteristic playfulness, Dr Binnig says his ultimate hope is that someday, two quantum computers will be chatting to each other—and one will say: “Binnig? Yeah, he's one of the guys who made us possible.”

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Big tobacco and the law

A smoke ring? That'll cost you $280 billion

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The federal government launches its lawyers against the United States' leading cigarette makers

THE hearings begin on September 21st. America's federal government charges its top cigarette makers—Philip Morris, R.J. Reynolds, Brown & Williamson (an arm of British American Tobacco that is now merging with Reynolds), Lorillard and Liggett Group—plus a British arm of BAT, with lying to the public about the hazards of smoking, of trying to fiddle or hide the scientific evidence, of deliberately getting people addicted to nicotine, of selling knowingly to people below smoking age, of pushing low-tar cigarettes as safer than others, while knowing they were not; and more. All untrue, say the companies. For them, it better had be: the government says they made $280 billion in “ill-gotten” profits and wants it disgorged.

To the tobacco firms, this looks like double jeopardy. In 1998, the four biggest reached a deal—the “master settlement agreement” (MSA)—with 46 state governments that accused them of pushing up the states' health-care costs. They agreed to pay $206 billion over the first 25 years, via a levy that is by now almost 50 cents a pack; four other states had already settled, for $40 billion over 25 years. Other companies have signed up. Problem solved.

Not so. The Clinton administration soon launched a federal suit, heavily reliant on a law meant to help the government recover health-care costs if someone injures a soldier. The judge threw out this part of the case, but left in another, based on the Racketeer Influenced and Corrupt Organisations Act of 1970.

This law, originally aimed at the mob, makes normal business a crime when it is part of an illegal conspiracy. That is what the tobacco men were up to, says the government, when they met on December 15th, 1953 in a doubtless smoke-filled room in a New York hotel, and schemed to mislead the public about the risks of smoking.

But did not the government itself once distribute cigarettes to GIs? Does not it still prop up tobacco prices and collect taxes on cigarette sales? It does indeed: about $8 billion a year. On top of that federal rake-off, states' excise taxes take about $9 billion. In addition, the 46 MSA states alone used to get about $8 billion a year from that agreement, though this has slid to an estimated $5.2 billion in 2003-04. Securitisation of the revenues has brought some states huge short-term windfalls.

It is hard to see the government really wanting to butcher this milch cow, even if it can persuade a court

to lend a hand. And if the tobacco barons were “defrauding the public”, as it alleges, what was it doing itself as it raked in tax revenues? Were its own scientists duped too?

Yet the industry has reason to worry. In pre-trial hearings, it argued that the MSA shielded it from the federal case. The judge disagreed. She also refused to cap the size of the government's claim, though that ruling is under appeal. However, to make the firms pay up, the government will have to prove that they not just defrauded the public but are likely to go on doing so. Since the MSA also imposed strict limits on their marketing, that will not be easy.

Expect no swift conclusion to this case. If the companies lose, they will certainly appeal. At which point a re-elected George Bush might call off the suit. And even if they were to lose all the way up—some sort of deal is more likely—it is (as stockmarkets agree) by no means sure that they would have to cough up the full $280 billion.

The spectre of FDA regulation

Meanwhile, the industry itself is volunteering to become even more virtuous than it claims to be already. More exactly, Philip Morris is. Along with the rest of big tobacco, it fought regulation tooth and nail in the 1990s. But now it is promoting legislation to give the Food and Drug Administration jurisdiction over tobacco. Why? Critics suspect the aim is not virtue, but protection for Philip Morris. They call the measure the “Marlboro Monopoly Act”.

Tobacco growers want to get rid of the Depression-era production quotas that keep crop prices high, but invite cheap imports. They want compensation, however, some $12 billion of it, for their quota certificates. And lo, Philip Morris has volunteered the cigarette makers to pay the cost—but only in return for FDA regulation.

Both chambers of Congress have passed a tobacco-buyout bill this year. But while the Senate goes along with Philip Morris, the House has passed a taxpayer-funded version with no FDA regulation. The two have soon to hash out agreed details of a corporate-tax bill to which the legislation is attached. Philip Morris says it will withdraw its support if the bargain it struck in the Senate is tinkered with.

FDA regulation would spell big changes for the industry

But why should taxpayers look this gift horse in its nicotine-stained teeth? What is the company after? FDA regulation would spell big changes for the industry: larger warning labels and more disclosure of toxins on cigarette packs; marketing—already banned from radio and television—limited to simple black-and-white print ads and retail displays; no flavoured cigarettes (bar menthol brands); FDA-set limits on tar and nicotine, and pre-approval to market cigarettes as “light” or “low-tar”. Has Philip Morris caught masochism of the throat? No, say its rivals: it is just trying to lock in its half-share of the American market. Tight marketing rules would hurt lesser brands more than they would Marlboro.

Maybe, but newcomers to the market find it odd to hear any bit of big tobacco carping about anti-competitive tactics: the big boys have done well enough under the MSA, which some see as a state-sponsored cartel. It forced signatory firms to pay up, and accept marketing restraints. But it also gave states less of the cash if they did not pass laws to hit non-signatories too. Even if these were not to blame for past smoking-related ill-health, they had to sign up, or pay up just as if they had, into escrow accounts held by the states. Within days of the MSA deal, the big firms raised prices by 45 cents. Further rises followed fast.

Yet things have changed, which may explain why Philip Morris has changed tack. Discount firms have pushed into the market, undercutting the high-priced leading brands by as much as $1 a pack, and they have still made a profit, despite the escrow costs—or simply evaded these. The discounters' market share has climbed from 2% in 1997 to about 12% now. In 2001, Philip Morris's share began to slip, though this year it is creeping up again.

Importers have done well: witness the recent threat from Vector Group, Liggett's parent, to sue the 46 MSA states for the allegedly over-easy signing-up terms that they allowed to an importer of Colombian cigarettes that sold 3m packs in 2000 and 380m last year. And after several failed attempts to challenge state laws, importers who do not want to sign up saw a New York appellate court in January reinstate one such case, writing, in an unusually candid opinion, that the MSA “threatens to become a permanent, nationwide cartel.” If the importers eventually win, similar suits could burgeon across the country.

How could FDA regulation help the big boys? A nicotine limit would aid makers who already have low-nicotine cigarettes. Many small firms lack the technology to make these. And Philip Morris would not weep at a ban on cigarettes that appeal to the young: Brown & Williamson and R.J. Reynolds have invested in sweet-flavoured brands, which do just that.

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Volkswagen

Higher wages or more job security?

Sep 16th 2004 | FRANKFURT
From The Economist print edition

If VW can't cut labour costs, it will have to cut jobs, it tells its workers

AFP

Nice plant, pity about the wages

IT WOULD cost Volkswagen an extra €1,400 ($1,700) per car to build a new off-road vehicle in Germany, rather than in eastern Europe or even in Portugal, its management says. Because VW these days makes barely a 2% margin on its sales worldwide, guess where it is unlikely to locate production of the new sports utility vehicle it plans, unless it can drive down German labour costs. The same goes for other decisions in the future, threatening thousands of jobs.

That is the issue that VW's top management began to thrash out in Hanover this week with the bosses of IG Metall, Germany's biggest blue-collar union. The union, waving strike threats, had been calling for a 4% wage increase and 10-year job security for 103,000 workers at VW's plants in western Germany (it has 7,500, on different pay, in the east). VW wants a two-year wage freeze and labour-cost reductions of 30% by 2011. Otherwise, it claims, it will have to lay off around 30,000 workers in Germany.

A worker at one of VW's plants in western Germany costs some 10% more than one at other car firms there, and far more than in America or France. Fine, if VW sold its cars at a premium, but it no longer can. Sharp discounting by rivals such as Toyota and General Motors, invasion of the middle market by DaimlerChrysler and BMW, plus its own muddled marketing, have left VW floundering.

The most worrying signal is VW's cashflow: €1.9 billion ($2.3 billion) in the red in the first six months of this year, on top of last year's €7 billion outflow. “We are living beyond our means,” said Bernd Pischetsrieder, the chief executive, last week.

They are, and the problems go beyond relations with IG Metall. A decade ago, when Volkswagen was last in deep trouble, it got out of it by raising output, and streaking to a big lead in the European market, helped by subsidiary brands such as SEAT, Skoda and Audi. But it did not take tough action on costs, so market leadership never paid off as it might have. Operating profit fell from €4.8 billion in 2002 to €1.8 billion last year. Mr Pischetsrieder was forecasting €2.5 billion for this year; in July he lowered this to €1.9 billion.

VW has run into difficulty almost everywhere. Nearly 10% of sales are in the United States. But in that competitive and uneasy market, its prices could not rise as the euro did, and its North American operating losses grew to €500m in the first half of this year. In western Europe, in a market that is, very slowly, growing, VW's sales have flagged this year. In China, where it was the first big foreign entrant, GM and Toyota are snapping at its heels; its sales there were down 14% in this year's second quarter as against that period of 2003. Brazil, where the industry was flooded with foreign investment from the mid-1990s, is a rare piece of good news: VW has stemmed its long-running losses.

Once a shining example of Germany's social-market economy at work, Volkswagen is under great pressure to bring its German operation, which still means half of its total workforce, nearer to the free-market values of other firms, and its own subsidiaries, elsewhere.

That would include resolving a running dispute with the European Commission over the company's ownership structure. The state of Lower Saxony, whose premier and economics minister sit on VW's

supervisory board, still owns 18% of it. No shareholder can control more than 20% of the voting rights. That, argues Brussels, both discourages foreign strategic investors and hinders the free flow of capital. And besides lower costs, cheaper capital is one thing VW badly needs. Hopes that the sheikhdom of Abu Dhabi would oblige, through a purchase of a 10% stake in VW, as part of a deal involving a leasing joint venture, and an assembly plant there, foundered on September 15th; the two parties could not agree on the value to be ascribed to the VW shares.

All the more reason for Mr Pischetsrieder to urge his German workers to opt for jobs rather than money. He may yet succeed. Though IG Metall may, in public, reject the idea, the VW works council (a different thing, albeit nearly all the workers are unionised) is more open to it. It's “jobs or cash”, the council's leader has said, making very plain which he preferred. And though this week's talks in Hanover produced no agreement, the two sides will be talking again on October 5th. German trade-unionists, whether speaking through their union or their works council, are no readier to rush headlong into suicide than anyone else.

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Business software

Oracular visions

Sep 16th 2004
From The Economist print edition

An American court ruling may spark consolidation in the software industry

BIG software firms have a tough time with regulators. That is a good thing for small software firms that fear being gobbled up. But is consolidation necessarily bad for competition? America's trustbusters have just received an answer they did not want, with possibly wide implications for the information-technology industry.

On September 9th, an American federal court ruled that Oracle, a big software company, could proceed with the $7.7 billion hostile bid for PeopleSoft, a smaller rival, that it announced 15 months ago. The Justice Department had sought to block the deal, saying it would reduce competition and lead to higher prices. The court ruled that the trustbusters' definition of the market was too narrow, and that the market in fact is open to competition.

The bid aims to unite the world's second and third-largest makers of enterprise-applications software, used by big companies to manage their money, employees, customers and suppliers—a market worth over $75 billion a year. PeopleSoft had rejected many offers from Oracle, saying the bid price was too low and that regulators would not allow it. That second obstacle is now crumbling.

Behind the bid lies the belief of Oracle's flamboyant boss, Larry Ellison, that the big must get bigger to survive as the software market matures. The focus is no longer on new sales but on steady revenues from maintenance, upgrades and services. For example, when Oracle released quarterly earnings this week, sales of new software were up 7% from the year before, to $563m, but revenue from updates and support was up 14% to $1.2 billion. Indeed, Oracle has not concealed that it wants not PeopleSoft's technology but its customers, who it hopes will migrate to Oracle databases.

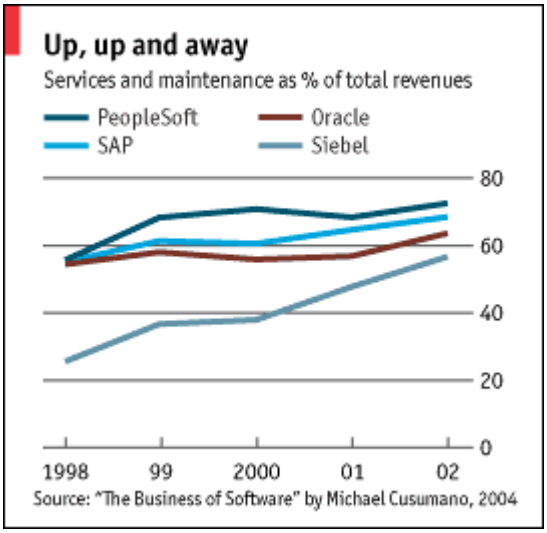
If the bid succeeds, it may unleash a wave of consolidation. Many enterprise-software companies have struggled as technology spending has slid in the past three years, and their shares are now at prices low enough to attract predators. “We already have too many software companies competing for too little space,” says Michael Cusumano, a professor at MIT's Sloan School of Management. Possible victims include Siebel Systems, BEA Systems and Lawson Software, among others.

Possible buyers are less obvious. The market leader in applications, Germany's SAP, bigger in many software segments than Oracle and PeopleSoft together, disdains acquisitions, which anyway would risk antitrust woes. IBM is a neutral provider of integration services, and does not wish to jeopardise that by buying applications firms. Though Microsoft did once eye SAP, it cannot burp without regulators belching. As for applications-software companies, few have much financial clout.

The takeover is not home and dry, however. For a start, there are still two more court cases to come. In Delaware, Oracle will try to get a “poison pill” defence by PeopleSoft ruled out. In California, PeopleSoft will argue in court that Oracle's bid is meant merely to disrupt its business, so PeopleSoft should be awarded damages.

Second, the Justice Department may appeal; it has until mid-November to decide. Third, and perhaps more significant, the European Union's competition division is also eyeing the bid. Its outgoing competition chief, Mario Monti, is expected to decide whether to pursue the case before he leaves his post next month. Though unafraid to deviate from American decisions, he

will be cautious: EU concerns are close to those that the American court has knocked down.



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Generic drugs in new EU countries

Screwing the brand names

Sep 16th 2004 | WARSAW
From The Economist print edition

EU intellectual-property rules clash with ex-communist practice

STAND by for generic Viagra. Perfectly legal, says Polpharma, Poland's biggest drug company, which plans to produce it. Ripped-off Viagra, fumes Pfizer, which owns the patent and has summoned its lawyers. And this won't be the first or last such clash between intellectual-property rights, as the European Union conceives them, and the copycat drug-makers in the countries of ex-communist central and eastern Europe.

The enlargement of the EU in May brought in eight such countries. With low incomes per head and meagre health-care budgets, they rely heavily on cheap generics: in Poland and the Czech Republic, these account for over two-thirds of prescriptions dispensed, far higher than in Germany and Britain, the leading west European generics markets.

Many also are produced locally. With scant opportunities under communism to join in the costly business of finding new drugs, the newcomers' drug companies all produce almost nothing but generics, except for Pliva, a Croatian firm that has developed a well-selling antibiotic. In the early 1990s, they faced an onslaught from international, research-based companies, which cashed in on the burgeoning demand for new treatments. Unencumbered by price controls on locally produced drugs, imports rapidly gained market share. In Poland, imports—not all, but more than half of them branded products—hold two-thirds of the $3.5bn drugs market, the largest in the region.

Yet the multinationals are not rejoicing. The EU's new members are cutting their budget deficits to meet its supposed standard of fiscal virtue. Local drugs that cost a third or a quarter of what foreign brand-name ones do have an obvious charm.

Not that local generics are escaping the knife, though they take only about a third of governments' drug spending. In April, Hungary's government slashed the price of drugs by 15% by decree, including those sold over the counter, and imposed a six-month price freeze for good measure. When the country's constitutional court ruled against the decree, the drug-makers still lost out: they were made to cover part of the shortfall in the health-care fund. Unfair, says Erik Bogsch, head of Gedeon Richter, Hungary's leading drugmaker: “The overspending on pharmaceuticals stems from the aggressive promotion of brand-name products,” he argues.

Poland's government seems to think so too. Even though Poles have to pay 65% of the cost of their medicines—the highest figure in the EU—it is threatening to refuse reimbursement of any drug whose price is 50% or more above that of the cheapest copies. It says this will free funds for other advanced drugs. Oh yeah, say the brand-name makers. The government, they say, is further endangering access to high-quality medicines. “Already no new chemical entities have been added to the reimbursement list in the past six years,” laments Mark Loughran, head of the Polish operations of GlaxoSmithKline.

What for the generics, now that their countries have brought their patent laws into line with the EU's ideas? The new entrants have to comply with EU legislation favouring brand-name producers. This includes a recently lengthened period of data exclusivity—the years after a patent expires during which copycats are excluded from using data from the original inventor's tests or clinical trials of a drug to get authorisation for a generic version. This will hamper generic firms' ability to copy. The newcomers have also given way on rules on patent extensions, which give drugmakers more time to recoup their investments in new medicines. But the multinationals wonder how zealously the new provisions will be applied. Some of the new countries anyway have legislative safeguards, known as “Bolar provisions”, which allow generic firms to undertake research and development work on drugs still under patent.

In one high-profile dispute, Eli Lilly, a large American drugmaker, launched legal action in Poland against Adamed, a local generics company, alleging infringement of its patent on Zyprexa, a drug for schizophrenia that brought Lilly half of its sales in Poland. Adamed claims that, though its version may have the same basic molecule as Zyprexa, it has a different crystal structure. Lilly, which lost its case last November, has now gone to appeal. But it has been unable to gain access to its rival's drug-registration file, fuelling its suspicions that Adamed did indeed simply break its patent. Pfizer's apart, other such disputes look sure to follow.

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MGM and Sony

Into the sunrise

Sep 16th 2004 | LOS ANGELES
From The Economist print edition

Faded star finds new happiness with samurai

Get article background

JAMES BOND will soon be in bed with Charlie's Angels; Rocky Balboa will team up with Spider-Man; MGM will cease to be Hollywood's last big independent movie studio; and, at the age of 87, Kirk Kerkorian, who holds 74% of MGM's shares, will add another $2.1 billion to his existing billions. Such are the immediate consequences of the tentative agreement reached on September 14th by Sony Corporation of America, owner of the lissom Angels and the amazing wall-climber, to buy MGM. Assuming approval by the MGM board on September 27th, and no antitrust objections, a Sony-led consortium will pay about $2.94 billion in cash and assume about $1.9 billion of MGM debt.

The deal ends months of wrangling, with Mr Kerkorian—who has now bought and sold MGM three times—dangling the prize of its library of 4,100 film titles and 10,000 TV episodes before not just Sony but Time Warner. Until just hours before the deal with Sony, it had seemed that Time Warner, ready to bid $4.6 billion (counting in the debt), was the front-runner. But then its chairman announced that it could not reach agreement with MGM “at a price that would have represented a prudent use of our growing financial capacity.” Even after three years, the bruises of Time Warner's merger with AOL are yet to fade.

So is the Sony consortium paying too much? Sony itself is putting up some $300m. The rest will come from banks and private equity. The key may be the last-minute involvement of Comcast, a cable company, as a programming and distribution partner (with cash maybe to come later). Comcast is linked to 22m American households; that will ensure some reassuring cashflow to the consortium. Indeed, Sony, which already owns the Columbia and TriStar studios, expects to buy out its partners, except for Comcast, within five years. For Comcast, which last year cast an eye over Universal and this year made an abortive bid for Disney, the attraction is a mass of new content, from both the MGM and the Sony film libraries, to sell as video-on-demand.

Some MGMpathists—the kind who swooned over “Gone with the Wind”, blubbed over “Brief Encounter”, sang with Elvis in “Jailhouse Rock” and giggled at the Pink Panther—will lament the loss of MGM's independence. But the roar of the MGM lion is not what it was: exploiting the library has for some years counted for more than adding to it. And 007 will surely not complain.

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South Africa's president and business

Mr Mbeki is not amused

Sep 16th 2004 | JOHANNESBURG
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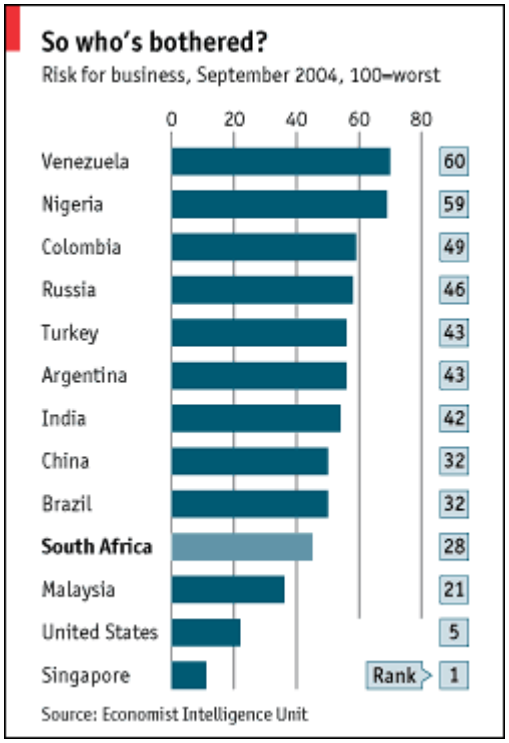
A blast for Anglo American

PRESIDENT Thabo Mbeki notoriously takes criticism badly. Last week he flew into a huff at a compliment. Tony Trahar, boss of the mining giant Anglo American, said political risk was declining in South Africa under Mr Mbeki's rule, and he had no plans to move his headquarters from "cost-effective" and "business-friendly" Johannesburg to London, although the firm is listed in both.



Compliment? How dare a white tycoon say any political risk remains in South Africa, raged Mr Mbeki; Anglo American had profited from apartheid when political risk was high, but labour cheap, now it fails to invest at home and bad-mouths the country abroad. And more. Mr Trahar, a mild-mannered former accountant, promptly phoned for a meeting to patch things up. His company pointed out that it had invested over $15 billion in South Africa since 1999.

Mining is one very substantial pillar of South Africa's economy, but Mr Mbeki's government has had a sour relationship with mining firms for several years, as land rights were expropriated and as royalty payments are slowly introduced. And the president has raged before. Last year Sasol, an energy company listed in New York, told investors that government plans to transfer capital into black hands ("black economic empowerment") could add some costs to doing business in South Africa. Racist, said Mr Mbeki.

Though it did not hurt either the rand or Anglo's share price, Mr Mbeki's latest blast can hardly reassure investors, foreign or local, who already find him enigmatic, at best. Rather than invite Mr Trahar in for a chat—or simply say nothing, since nothing needed saying—he sent his response as an e-mail to all members of the ruling African National Congress. Some observers concluded that his real aim was perhaps to bolster his credentials as a radical, before facing down an imminent national pay strike by civil servants.

As for investors, he could perhaps more usefully have made a solid case for wider interest in his country's growing economy. Like Mr Trahar, ratings agencies all say its political risk is declining; and nowhere on earth (well, Luxembourg maybe?) enjoys zero risk. Last year Moody's, Standard & Poor's and Fitch all gave South Africa better ratings for risks of various sorts. The Economist Intelligence Unit, part of the firm that publishes *The Economist*, ranks South Africa as the 28th least risky of 60 that it studies, with less risk than, say, Russia, Turkey or India.

Mr Mbeki says there is a serious "disjuncture between the political and the business leadership in our country". Whatever his historic or present-day reasons, he chose an odd way to reduce it.

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Russian oil and gas companies

Gazpromotion

Sep 16th 2004
From The Economist print edition

A well-designed takeover gives more power to the Kremlin

“AHA,” was the response in Moscow to the news that Gazprom, Russia's state-run gas monopoly, will acquire Rosneft, the state-owned oil firm, “so that's how they're going to do it.” There are in fact four long-awaited “its” which, if all goes as planned, the deal kills with one stone.

The acquisition gives the state a majority in Gazprom; clears the way for the removal of the “ring-fence”, a restriction on foreign share-ownership which the government wanted to delay until it had a firmer hold on that company; clears up the likely fate of Yukos, an oil firm that has been under attack for more than a year; and gives Vladimir Putin, Russia's president, and his coterie a powerful lever over both domestic and world energy policy.

In effect, the government will be selling Rosneft to itself. It will give its 100% stake in Rosneft to some Gazprom subsidiaries, in return for their 10.7% of Gazprom. This will raise its total Gazprom stake to just over 50%. So Gazprom gets Rosneft, and the state gets full control of both.

Though there is no certainty about the ring-fence, investors look forward to being able to buy Gazprom shares in Moscow rather than being limited, as now, to its overpriced ADRs in New York. It will also, says Vadim Kleiner, at Hermitage Capital, an investment fund that specialises in Russia, put the Russian stockmarket on the map for big institutions that might have paid little attention before; the enlarged Gazprom would be worth $58 billion at current prices.

As for Yukos, since July it has been clear that the plan for the firm is to wrest it from Mikhail Khodorkovsky, its boss, who is now in jail after challenging Mr Putin politically, by selling off at least Yukos's main production subsidiary, Yuganskneftegaz, to cover a huge bill for back taxes. The Gazprom-Rosneft merger ends speculation about which would be the buyer: both will. The resultant joint firm not only will be the world's biggest gas producer but will control about a fifth of Russian oil output, which exceeds Saudi Arabia's (though Russia exports less). And Rosneft is already the state arm in joint ventures with foreign firms to tap huge reserves off Sakhalin Island, north of Japan.

Moreover, energy policy allows Russia to play its neighbours like an orchestra. Gazprom has subsidiaries, wholly or partly owned, throughout the former Soviet Union and in most European countries. The threat of cutting off or rerouting oil and gas supplies has been used more than once. China and Japan have vied for years to be the destination for an oil pipeline out of Siberia.

The job of running the new firm will thus be one of great power, and Mr Putin will not want to entrust it to just anyone. Alexei Miller, Gazprom's current head, is a safe pair of hands but “unlikely to want to stay to oversee the major changes ahead,” says Chris Weafer, at Alfa Bank in Moscow. And if he goes? Step in, Igor Sechin, recently appointed chairman of Rosneft—and one of Mr Putin's closest advisers.

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National stereotypes

A fair bet, but wrong

Sep 16th 2004 | CHICAGO
From The Economist print edition

Chinese and Americans: who's readier for risk?

CHINESE are cautious and drink tea; Americans prefer coffee and readily take risks. So run the stereotypes. But what if those who study them as a prelude to doing business are being misled? A recent study by two American academics suggests they are.

Given the two nations' differences, from traditional values to political systems, Christopher Hsee, at the University of Chicago, and Elke Weber, from Columbia University, expected to find Americans readier to take risks. So did the American and Chinese students whom they asked. But when they then asked the students to choose between a high-risk, high-return investment and a low-risk, lower-return one, they found the opposite: it was the Chinese who were happier with risk.

Why? Mr Hsee and Ms Weber suggest two possible reasons. Maybe in a collectivist society, as China's is (and in a different version long has been), people have a denser social network that would offer financial help if they need it. Or maybe those in an explosively developing economy, as China's has been recently, see more to gain in risk than do those in stable developed ones.

Whatever the reason, these findings might be useful to any Americans considering a deal in Shanghai. In any joint venture, the partner with the most appetite for risk is probably the one who calls the tune.

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Face value

The one-time Lion King

Sep 16th 2004
From The Economist print edition

AP

Michael Eisner is at last on his way out of Disney—slowly. Too slowly for some

ALL that is best about American capitalism, and some of the worst of it, is embodied in Michael Eisner, boss of Disney, who has just announced that he will step down in two years' time. During the first 13 years of his reign, Disney's market capitalisation grew by $64 billion; riches that went into the pockets of shareholders large and small. For that achievement he was paid ludicrous sums, which helped to set the standard for ballooning executive pay during the 1990s. But now that Mr Eisner's reign has turned sour, and many shareholders want him out, it is proving nearly impossible to unseat him.

His announcement that he will step down as chief executive when his contract expires in September 2006 is no great concession to his critics: it is highly unlikely that Disney's board would have asked him to stay on. But by putting a firm date on his departure he allows the board to reassure shareholders that the search for a successor is properly under way. Some shareholders, however, want him to go sooner. At Disney's annual general meeting last March, 45% would not vote for his re-election to the board— a startling show against a chief executive. The real question is whether Mr Eisner can survive even until 2006. This week Roy Disney, nephew of Walt Disney, and another former board member, Stanley Gold, demanded that the board start a worldwide search for a successor at once, and announce that Mr Eisner would go as soon as one was found. Otherwise, the two men said, they would propose a rival slate of directors for shareholders to vote on at the next annual general meeting, in 2005.

When Messrs Disney and Gold originally brought in Mr Eisner to be chief executive of Disney in 1984, he found a sleepy company with valuable but barely exploited brands. Disney was in danger of being bought and broken up. He rescued the firm by energetically devising umpteen new ways to profit from its iconic cartoon characters. He expanded its theme park business, and by 1998 had opened 681 new Disney stores full of merchandise. Mr Eisner can also lay claim to be that rare thing in the entertainment industry, a creative executive. Under his close eye Disney's animation division soared, with hit films such as “The Little Mermaid”, “Aladdin” and “The Lion King”. Indeed, appearing on Disney TV shows, Mr Eisner himself became a part of the brand. Taking advantage of Disney's spurt of growth, he bought Miramax Films in 1993, and in 1995 engineered the purchase of Capital Cities/ABC, a transforming deal that brought Disney a broadcast network, TV stations and ESPN, a popular sports cable network which has driven earnings ever since.

In 1989 and 1996 Disney's board rewarded Mr Eisner with a total of 16m stock options, according to the

Corporate Library, a corporate-governance research firm. Most had a strike price well above the share price, and so followed best corporate-governance practice. In the same virtuous vein, his salary remained relatively low. But because his success pushed the share price up so high, he was able to cash in stock options worth over $650m in 1998-2000. This was too much, says Paul Hodgson, of the Corporate Library, and it puts him in the top five highest-earning CEOs ever. Some on Disney's board admit in private that they rewarded Mr Eisner too highly, says one expert on executive pay. Board members never imagined that the stock could perform so well and make so many of the options worth exercising.

What went wrong

Hubris was predictable. Nemesis followed. Being overpaid and feted in American business turned Mr Eisner's head. He appointed an architect, a movie director and a schoolteacher to the board, and Disney became a byword for poor corporate governance. He brought in a pal, Michael Ovitz, as his number two in 1995, and paid him an estimated $138m to go away a year and a half later when it was clear that the appointment was not working out. From a peak in 1997, Disney's performance slumped. Comparing the results now expected for all of 2004 with 1997, says a Merrill Lynch analyst, revenue will have grown by 4% a year during that time, operating profits will have fallen by 7% a year, and earnings per share will not have budged. Over the same period a large number of executives have left, fed up with Mr Eisner's micro-managing style.

In the past couple of years things have got somewhat better. Mr Eisner, who is 62, has brought more independent directors on to the board, in a sincere attempt to reform its corporate governance. Revenues and profits are growing fast again, and Disney has promised investors a 50% increase in earnings per share for the year ending this September. On the other hand, Disney will soon lose its highly profitable tie-up with Pixar, an independent animation studio, thanks in part to Mr Eisner's troubled relationship with Steve Jobs, Pixar's founder. Disney's own animation unit, historically the creative heart of the firm, has lately been bereft of hits. Earlier this year Disney became the target of an unsolicited takeover bid from Comcast, a giant cable firm, which was later withdrawn. In the wake of the Sarbanes-Oxley Act of 2002, which forced a new discipline on to chief executives and boards of directors, Mr Eisner, even after his reforms, looks like a throwback to the free-wheeling 1990s.

Not many chief executives stay on for two years after announcing that they will step down. Inevitably, says Roger Fransecky, of the Apogee Group, an advisory firm for CEOs, Mr Eisner's leadership will be handicapped. Mr Eisner says he supports Bob Iger, his current second-in-command, as his successor. But it is not clear that Mr Iger has enough credibility either inside Disney or with its shareholders. A brand-new chief executive from outside the company looks a better bet. If a suitable candidate can be found this year or next, Mr Eisner would be wise to take the opportunity to put a more graceful and immediate end to his remarkable record at Disney.

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Lloyd's of London

Insuring for the future?

Sep 16th 2004
From The Economist print edition

Alamy

Lloyd's is trying to make its business practices as sleek as its building. But will that be at the expense of the characteristics that make the market so distinctive?

“IF YOU had to invent an insurance market, you'd never invent Lloyd's,” it is often said of the 316-year-old London-based institution. Lloyd's is most famous for almost going bust in the 1990s at the expense of the individual “names” who used to provide its capital. Lately, however, it is showing signs of having made a remarkable recovery. It reported profits of £1.9 billion ($3.1 billion) for 2003, more than double the previous year. And its reputation is riding high. Not only did it willingly pay huge claims after September 11th, but also it expects to have no trouble riding out the succession of hurricane-related claims currently battering the insurance market. Its final payout for hurricane Charley, for instance, was a modest £300m or so, hardly enough to dent a market that has annual underwriting capacity of £15 billion, almost half of which is directed to the reinsurance business.

Lloyd's new-found health is galvanising its bosses, who think the market can do even better if only it will shed some of its quirkier characteristics and embrace modern technology and business practices. Nick Prettejohn, chief executive since 1999, talks of changing the behaviour of the whole enterprise: “We're trying to make up for an awful lot of lost time.”

A brief walk round the market suggests he is right. Despite its modern setting, Lloyd's is replete with traditions. Brokers still march around with bulging folders of documents as they seek to place business. Encouraging them and underwriters to make better use of electronics is only one of several big changes Mr Prettejohn has in store. He rattles off eight priorities, ranging from the adoption of annual accounting (Lloyd's has traditionally reported results with a delay of three years) to obtaining more licences for doing business round the world and getting easier treatment on reinsurance from regulators in America. The most important of all, however, involves improving the performance of the 66 underwriting syndicates that inhabit Lloyd's. “People should be able to demonstrate a well-argued business plan,” he insists.

If that seems an unremarkable goal, then consider that Lloyd's is not a company, but a highly unusual market. Its syndicates are mostly backed by big insurers, which have their own chief executives and announce their own results. Despite competing against each other, the syndicates also report to the centre, which pools some of their risk. In this sense they form a unique structure—a “voluntary, mutual, capitalist society”, in the words of Graham McKean, chairman of Ballantyne, McKean & Sullivan, a firm of brokers.

Lately, however, the mutual society has been behaving more like a company. Two years ago it created a “Franchise Board” to promote Lloyd's powerful brand and push through reforms. Its interventions have

not been to everyone's liking. Many among the market's thousands of underwriters and brokers support toughness in theory, but remain fiercely independent. They appreciate Lloyd's prestige and global reach, its protections and the face-to-face haggling that has existed ever since Lloyd's began its days as a coffee-house offering insurance for the British empire's merchant fleet. They come to Lloyd's to deal in big risks, complicated risks and just plain weird risks (a man once obtained insurance against seeing a ghost).

History partly explains why many underwriters and brokers are residually wary of central management, which gobbles up 1.75% of syndicates' premium capacity and has a lamentable track record. “The centre has always had the power to intervene in the past. It demonstrably lacked the ability,” says Mr McKean.

Indeed, Lloyd's barely squeaked into the modern era. Between 1988 and 1992 it lost £8 billion as claims poured in from litigation in America about asbestos and pollution cases, as well as from a string of disasters. The names who provided the market's capital had unlimited exposure to Lloyd's risks. More than 1,500 of these (out of 34,000) were financially ruined. They sued for negligence, which had indeed appeared rampant. To save itself, Lloyd's embarked on a huge actuarial exercise. In 1996 it hived off all of the pre-1993 liabilities into a new reinsurance vehicle called “Equitas” and managed them separately from the ongoing business. The enraged names were offered a settlement, which most accepted.

Lloyd's breathed another day and began to change its ways. In 1994 new rules allowed companies to invest in Lloyd's syndicates for the first time. They have since largely replaced names, who now account for less than 20% of Lloyd's capital base. Many big insurers, such as America's AIG or Bermuda's XL Capital, back Lloyd's syndicates. In turn, Lloyd's has internationalised, with America providing more than one-third of premium income and Asia marked for future growth. The theory behind the switch to corporate capital was that companies could bear losses better than individuals. But premium rates stayed low in the late 1990s, and some companies considered pulling out.

Stress tested

Then came September 11th. Paradoxically, the attacks helped to resuscitate Lloyd's. The syndicates' collective bill (before receiving reinsurance payouts) ended up at around £5 billion, or one-quarter of the total for the World Trade Centre. But Lloyd's paid up and did not collapse as many feared—indeed, the market resumed writing terrorism cover within 48 hours of the disaster. The huge losses from the attacks, combined with deep confusion about which insurers were bound to which policies, helped to spur the internal agenda for change. “That tragedy concentrated people's minds,” says Mr Prettejohn.

September 11th also ushered in a long bull market for insurance. Lloyd's has taken advantage and its own financial health has improved. In August it even received a long-sought upgrade from A.M. Best, a credit-rating agency. The management team, led by Lord Levene, Lloyd's globetrotting chairman, and the lower-key Mr Prettejohn, has also impressed many. “Lloyd's is stronger than at any time in its history,” says Robert Hiscox, eponymous chairman of an insurer that runs one of Lloyd's biggest syndicates.

Still, Lloyd's faces lots of challenges. After three strong years, rates for many types of insurance have recently begun to fall. Capital flooded into the industry after September 11th. Competition from Bermuda and elsewhere is intense. The question that preoccupies every underwriter and broker is this: will Lloyd's be able to maintain its new regime of discipline when the market turns?

To put Lloyd's ambitions in context, consider the following: few insurers have ever broken, or much moderated, the dramatic swings of the industry's fortunes. Insurers unfailingly pay lip service to “breaking the cycle”; then they proceed to slash rates and write slacker policies in order to hang on to market share. As Warren Buffett, whose Berkshire Hathaway is a competitor to, as well as a participant in, Lloyd's, has observed, it is “difficult for able, hard-driving professionals to curb their urge to prevail over competitors”. Restraint is all the harder because, unlike in other businesses, insurers only find out years later, when claims are settled, just how inaccurate was their pricing of risk.

If only everybody would slash capacity rather than rates—ie, write less business at higher rates when times get hard—then returns would be steadier. Or so the theory goes. But of course insurers cannot act as an oligopoly. Even within the Lloyd's marketplace, syndicates regularly steal each other's business by cutting rates.

Why, then, is cautious optimism rippling across the market? The answer lies in the emergence of a credible economic regulator (an internal appointment, separate from outside regulation of Lloyd's by Britain's Financial Services Authority). Last year Lloyd's created the post of “franchise performance director” as part of its overhaul. Rolf Tolle, a blunt-spoken reinsurance specialist from Germany, began the job in March 2003. His goal is to generate returns for Lloyd's of about 7% annually, averaged across good and bad years.

Mr Tolle's method is to conduct a careful review of syndicates' business plans. In the past this was only ever done scrappily. This year, the first full year of the new regime, every syndicate had to provide two drafts of its business plan for 2005. Mr Tolle will give (or withhold) approval in November. The idea is that, because he sits at the apex of the market, with all sorts of information at his fingertips, he can more easily spot market trends. He can deduce, say, by how much marine business is likely to fall off. He can then demand justification from individual syndicates that seem out of line in setting premiums too low or terms too loose.

Mr Tolle's impact on this hidebound institution is hard to exaggerate. In July he asked 15 syndicates to resubmit their early drafts and scrawled comments on many more. Next year he is expected to insist on cuts in capacity as the insurance cycle moves downward. Most in the market view him as tough and capable.

Still, concerns abound. Everyone is waiting for an almighty clash between Mr Tolle and one of the bigger syndicates. “The franchise board's day of judgment will come when it says to a major, major business, ‘You can do that, but you can't do that here',” says Mr McKean. “And they will say, ‘Well, if you force us to take that out, we'll take our whole business out.'”

Policy decisions

So far, the only public clashes have been with Goshawk—a specialist reinsurer that decamped to Bermuda last year after producing dreadful losses—and Dex, a small marine operation that withdrew because it wanted to underwrite far more business than Lloyd's considered prudent. Meanwhile, the politicking is intense. Smaller syndicates grumble that Mr Tolle picks on them. Bigger ones retort that this is sensible, as their smaller counterparts are more prone to writing foolish business.

With so many warring interests, the quality of Mr Tolle's information also worries some. True, he is advised by several senior, well-respected underwriters, and he also circulates widely. However, argues Mr McKean, the system is “potentially dangerous”. The flipside of Mr Tolle's life-or-death powers over syndicates' business plans is that he must make correct distinctions between serious insights into marketplace behaviour and the mere ups and downs of genuine competitive jockeying. In that sense, his information gathering could be open to abuse.

As usual, there are dozens of different opinions on the subject—and others argue that all the tongue wagging at Lloyd's actually makes Mr Tolle's job simpler. “It's a terribly easy market to regulate because we all see each other's risks,” says Mr Hiscox, himself a former Lloyd's regulator. “It's wonderfully gossipy.”

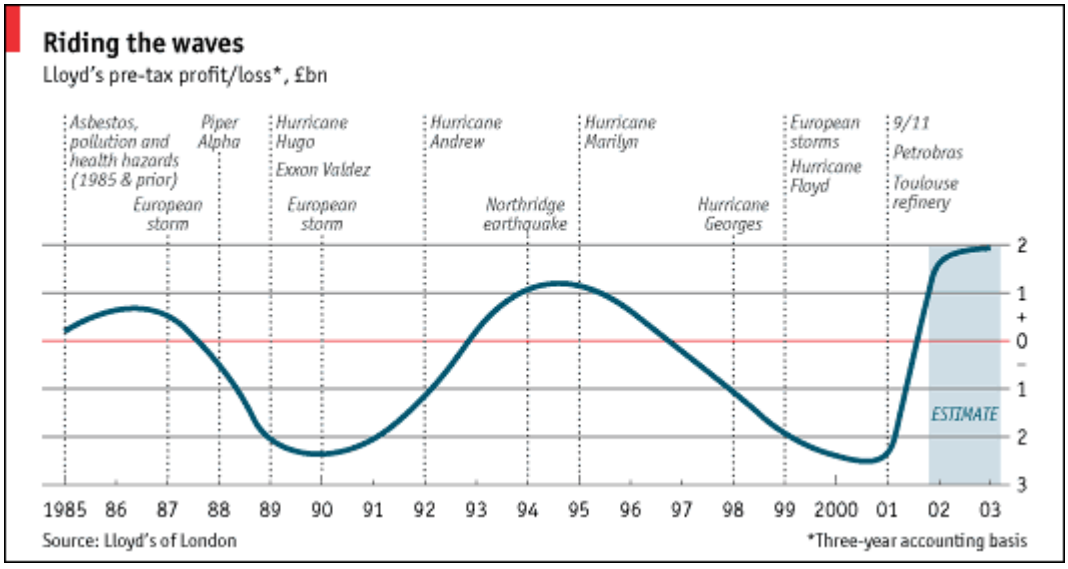
At their core, though, the jitters about central supervision boil down to two questions. First, will it succeed as rates soften? And second, will it succeed too well? Too much interference could curb the creativity of Lloyd's underwriters—the very reason people seek cover from the London market. “One hopes [the new regime] will reduce the risk. The fear is that it will reduce innovation,” says one broker.

The doubters cite a ruckus in the 1970s over medical-malpractice insurance in America. Most insurers thought it was plain daft to reinsure doctors' mutuals. Lloyd's went ahead and became something of a monopoly, making a fortune. Should a similar situation arise today, says Mr McKean, “I really don't know whether the franchise board could get their head around such an incredible opportunity.”

Papers, papers everywhere

As if all this were not ambitious enough, Lloyd's has also embarked on a costly effort to modernise the way it handles business. Although Lloyd's is known for proffering coverage speedily, its systems for processing policies are typical of the insurance industry: they are a mess. It has sometimes taken five or six months to finalise a policy on a complicated risk. Worse, negotiations can take place even after coverage has started.

Lloyd's is trying to streamline its own processes and make sure underwriters and brokers know exactly what they are signing up to. For starters, it has ordered the market to use a standard form (called a 'slip') that states basic information about the underlying policy (the names of the client and broker, how much they are insured for and over what period, etc). Most have complied, albeit grudgingly.



Far more controversial is an ongoing overhaul of Lloyd's IT systems that would change the way brokers and underwriters interact. At the moment, brokers often shop for coverage in the vast underwriting room with hard copies of the risk they are trying to place; later they finalise the policies with the underwriters by e-mail (very old policies, of course, are on paper only).

E-mail has drawbacks. First, it is not secure. Second, it is inefficient, since data are not stored in a standard way. The agreed premium and deductible and so on must be re-keyed into each party's spreadsheets. In other words, the same risks must be re-entered into lots of different systems. Far better, says Lloyd's, to create a single system that everyone can access from their desks. This would make it faster and more secure to hammer out policies. It would also help companies crunch numbers and thus understand their exposures better. Banks built such systems long ago. A year ago Lloyd's hired Iain Saville, who has run such projects at the Bank of England and elsewhere, to head its IT efforts.

Lloyd's new system, called Kinnect, is not much liked or understood. It has cost £50m and counting, but only a paltry number of transactions go through it. Everyone seems to have a different idea for a better and cheaper system. A few even worry that the technology will supersede the face-to-face exchanges between brokers and underwriters—the very essence of the Lloyd's market—though this seems unlikely, especially for complicated risks.

Lloyd's seems determined to push on with its project. Two huge global brokers, Marsh & McLennan and Willis, are backing its efforts and Lloyd's is energetically courting others. A milestone of sorts may be passed later this year, when all North American property business is supposed to be handled by the new system. But the real gains will come only when everyone starts using it. So far only six of Lloyd's 44 managing agencies (which oversee syndicates) have signed up.

As Lloyd's pours money into Kinnect and into the salaries of managers who peddle its brand and preach the virtues of market discipline, somebody has to pay for it all. To date, Mr Prettejohn has managed costs well. He has got rid of hundreds of staff jobs and outsourced services such as claims processing. Better technology should bring more savings—eventually.

But Lloyd's is not a cheap place to do business. This is plain in an industry whose margins have fallen in

recent decades. Syndicates contribute 0.5% of their premium capacity towards annual operating costs of around £170m. Lloyd's bizarre capital structure creates still more costs. To the annoyance of some syndicate managers, the remaining names are allowed to shift their investments around every year in an auction. This forces syndicates to re-form, and capital to be re-raised, annually. Administrative costs pile up.

Central planning

The biggest cost, though, is the 1.25% of premium capacity that syndicates contribute to what Lloyd's calls its “Central Fund” (a separate 2% premium levy ended last year). This is a pool of money, currently around £700m, established to provide backing for syndicates overwhelmed by losses. (It is separate from Equitas, the fund that is running off or settling all pre-1993 liabilities.) In 2002 claims on the central fund reached £466m, much of it in the wake of September 11th.

The backing of the central fund allows syndicates to underwrite huge risks, such as satellites, that they would not be able to handle alone. But there are constant tensions. In binding arbitration begun last year Lloyd's says Swiss Re and five others that provided insurance to the central fund should pay for some of the losses caused by the September 11th attacks. The insurers argue the £500m contract is invalid.

More generally, big syndicates complain that smaller ones free-ride on Lloyd's deep pockets and good credit. And everyone feels that they are being squeezed for a disproportionate share of capital. The squeals will only grow louder assuming Lloyd's follows through on plans to triple central-fund holdings to £2 billion by 2008, although Lloyd's might introduce a system that allows syndicates to make loans to the fund in addition to the annual levies.

And as the centre grows ever more muscular, the Lloyd's gossip machine is starting to speculate about where it will all end up. Is incorporation on the horizon? Might Lloyd's demutualise and transform itself into a limited company? Mr Prettejohn rebuffs such suggestions, noting that Lloyd's has no source of income that could generate value for external shareholders.

The market gossips, however, will not be denied. Mr Hiscox predicts eventual incorporation or even a takeover bid for the market. At the moment, he says, the key impediment to such progress is the continuing presence of the names. They would have to be bought out, and some may refuse to go. Today's names will die off, and Lloyd's is not allowing any new ones to join with unlimited liability. Meanwhile, central management will carry on trying to drag the rest of this ornery market, kicking and screaming, into the modern era.

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Euro-area economies

The fit and the flabby

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Some European economies are in better shape than others

SINCE the middle of 2003, the euro area's economies have grown at their fastest for more than three years. Even so, the 2% average increase in their real GDPs in the past year is less than half that of America or Japan. Moreover, too much of Europe's growth has come from foreign demand: real domestic demand (consumer spending, investment and government expenditure) grew at an annual rate of only 1.2%. Indeed, in the second quarter, net exports explained almost all the growth in GDP. America has good reason to complain that Europe is not pulling its weight in the world economy.

Meanwhile, America's domestic demand has surged by 5% in the past year. The huge gap between this and the feeble expansion in the euro area partly explains why America's current-account deficit widened to almost 6% of GDP in the second quarter. The gulf between American and European economic performance is often blamed on the old continent's less flexible labour and product markets, but over the past couple of years America's super-loose fiscal and monetary policies have surely been more important. That stimulus is now fading, so the growth gap between Europe and America is likely to narrow over the next year.

However, aggregate figures for the euro area mask big differences among countries, not least between the two largest: while Germany's GDP grew by only 1.5% in the past year, France managed 3%. Leave aside Germany, and domestic demand for the whole zone looks much healthier: up 2.5% in the past year. Both France and Spain enjoyed increases of around 4%. In Germany, domestic demand fell by 0.7%.

The gap between France and Germany is long-standing: since 1996 real consumer spending has increased by 22% in France, but by only 8% in Germany. The chart shows the contributions to growth from the various components of GDP since 2000. Germany's consumer spending has stagnated and capital investment has plunged. Government spending has also given much less support. Germany has outperformed France only in exporting. Net trade (exports minus imports) has actually been a drag on French growth since 2000. Thus France's growth has come entirely from domestic demand, while the whole of Germany's expansion has been driven by net exports. There are signs that Germany's domestic demand may have picked up in the third quarter, but it has a lot of ground to make up.

The difference in the performances of the euro giants has two important implications. First, if the

economies of America and China slow sharply over the next year, Germany's economy will be much more vulnerable than France's. Germany needs to find more growth at home. Second, the monetary policy of the European Central Bank (ECB), which sets a single interest rate for the whole euro area, is currently probably not ideal for either economy.

Consumer spending has been stronger in France partly because jobs and hence incomes have been growing faster there than in Germany, but also because since the end of 2000 France's household-saving rate has fallen from 17% to 14.5% of disposable income, while Germany's has risen from 9.6% to 10.9%. This may reflect German households' *Angst* over economic reforms. Unemployment benefits are to be cut sharply from January, adding to worries about the consequences of losing a job. Meanwhile, several big German firms have reached deals with workers to cut costs by working longer hours for the same pay. In the long term, this should lift profits and investment, increase Germany's growth rate, and so boost incomes and jobs, but in the short term it is dampening consumer confidence.

Monetary and fiscal policies have also been tighter in Germany than in France. Adjusting for the impact of the economic cycle, French fiscal policy has been eased by about 1% of GDP since 2001: Germany's has been tightened by almost the same amount. Germany's lower inflation rate also means that real interest rates have, on average, been higher there than in France. On the other hand, Germany's lower inflation has improved its competitiveness and so helped to support exports.

Perhaps another reason why consumer spending has boomed in France and stagnated in Germany is that average house prices have risen by 14.5% in France over the past year, but fallen by 1.7% in Germany. Indeed, over the past three years prices have fallen in Germany, but climbed by almost 40% in France.

Residential-property prices are also rising briskly in Spain, Ireland, Italy and Belgium. A house-price boom can support consumer spending by making households feel wealthier. Indeed, in the euro area there has been a close relationship over the past year between house-price inflation and the strength of consumer spending: in countries with large house-price gains, such as France and Spain, people have increased spending fastest; in countries with flat or falling property prices, notably Germany and the Netherlands, they have been spending less.

Home thoughts

According to *The Economist*'s global house-price indicators, average prices in the euro area excluding Germany have risen by 12% over the past year. This seems to be giving the ECB some cause for concern and may prompt it to lift interest rates sooner than expected.

At its most recent press conference and in its monthly bulletin published last week, the ECB expressed worries about the rapid growth in house prices and mortgage lending in several countries as a result of low interest rates. On the plus side, a buoyant property market helps to boost consumer expenditure: America's housing boom has kept consumers spending there since the stockmarket bubble burst. However, the ECB seems more concerned than the Federal Reserve about the negative implications of rapid asset-price inflation. Even if inflation is fairly tame, the central bank worries that excess liquidity could push up inflation in the future or blow up a house-price bubble.

If so, France and Spain may need higher interest rates to help cool down their housing markets. Yet Germany ideally needs lower interest rates. The ECB's mandate, however is to set the appropriate rate for average conditions in the euro area. Unfortunately, that may mean that none of the big economies have the correct monetary policy.

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Treasury bonds

The message of the markets

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From The Economist print edition

Why are yields on American Treasury bonds so low?

SOMETHING odd is happening in the topsy-turvy world known as the US Treasury market. The economy is growing; the Federal Reserve is putting up interest rates; and the price of oil is rising. Such a combination, you might imagine, should have brought a warm glow of satisfaction to those who earlier in the year had suggested that ten-year Treasuries would soon sport yields of 6%. And rise strongly they did, at first; but they have fallen back to a mere 4.2%, not much more than at the start of last year, when financial folk were chattering about deflation.

There are, to be sure, some factors distorting the market, in the form of big purchases of Treasuries by Asian central banks in general and the Bank of Japan in particular. Last year and the year before, Asian central banks bought huge amounts of dollars to stop their currencies rising. With those dollars they bought government bonds and bills, pushing prices up and so yields down a bit further than they would otherwise have gone.

Those dollar purchases have slowed; the Bank of Japan, by far the most interventionist of the lot, stopped buying altogether in March. However, it still has masses of greenbacks that it would prefer to invest in higher-yielding bonds. So in July and August the Bank of Japan pumped some $15 billion into Treasuries—perhaps twice last year's rate. And there may be a few more months of buying to come: at the end of August the Bank of Japan still had $122 billion.

Although much was made of these purchases last year, their effects are probably small because the Treasury market is so big. This leaves a conundrum: why are yields falling when rates have risen so little from such a low base? Granted, yields have fallen before when rates were rising, but generally only when investors have thought that central banks have done their job, growth is slowing, inflation is under control—and therefore that interest rates were near their peak and bonds were in consequence a super buy.

Given how loose monetary policy has been and the way the Fed has been talking, interest rates surely have further to rise. Not long ago, the markets were worrying that growth was too strong and inflation was about to take off. Since then the Fed has raised rates only from 1% to 1.5%. Most economists would put the neutral interest rate—ie, one that neither stimulates nor reins in the economy—at 4-5%.

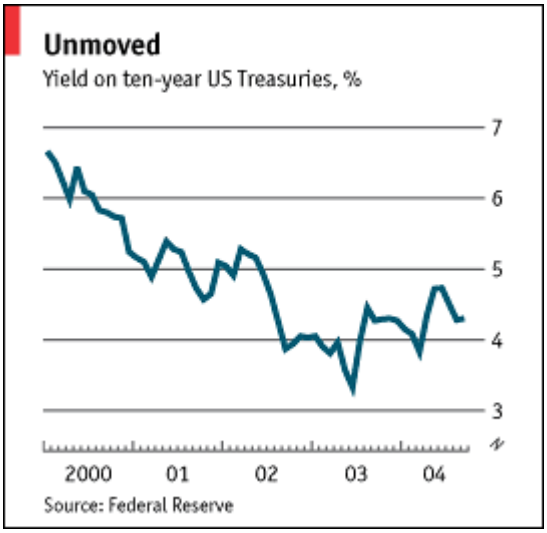
However, low and falling bond yields imply that investors consider the American economy to be more fragile than they had thought, and inflation a negligible threat. On the face of it, this is doubly odd, for a surging oil price has traditionally fed into higher consumer prices. Not this time, apparently. After an upward blip in the middle of the year, core inflation—which admittedly excludes food and energy—has been falling recently. Investors are concerned that the high oil price will slow the economy, and rather than stoke inflation might even push it lower.

There is certainly plenty of evidence for a slowdown. Job creation is anaemic by past standards. The monthly payroll figures are more closely watched by the bond market than any other economic statistic: on those rare occasions when job creation has surged, so have bond yields. Moreover, firms' inventories are rising. And figures released on September 15th showed that industrial production grew by a paltry 0.1% in August.

Alan Greenspan, the chairman of the Fed, has said that recent

economic weakness is a “soft patch”, which was, he said in recent testimony to Congress, “related, in large measure, to this year's steep increase in energy prices”. But oil prices and slightly higher rates are not the only brakes that are being applied to the economy. Fiscal policy is about to be tightened: tax rebates are due to run out at the end of this year. And the economy is likely to be more sensitive to any rises in interest rates because consumers are so much more indebted than they were in the past. All of this could mean that Mr Greenspan's soft patch is rather softer and longer-lasting than he expects it to be.

Debate about whether this might be true divides economists. Some think the Fed should carry on raising rates until they reach a more normal level. Others think that the economy is showing sufficient distress for the Fed to postpone putting up rates, or that any increases will be reversed next year. That would make bonds splendid value, even now.



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Mediobanca

Still there

Sep 16th 2004 | MILAN
From The Economist print edition

An Italian investment bank defies the doomsayers

GABRIELE GALATERI DI GENOLA recalls asking himself, having met Calisto Tanzi, then boss of Parmalat, at a dinner party, why the dairy group and Mr Galateri's bank, Mediobanca, did no business together. The next day, Mr Galateri asked his bankers. They said they did not understand Parmalat's opaque finances and thought it wiser to stay away.

Not long afterwards, Parmalat imploded; Mediobanca is now involved in its restructuring. The bank is doing nicely. On September 16th it said it had made a net profit of €536m ($638m) in the year to June, ten times more than in 2002-03. Last year, when Mr Galateri became its boss, the jewel of Italian finance had lost its shine. Mr Galateri's predecessor had quit, having upset the shareholders. Once at the centre of almost every intrigue and deal in corporate Italy, the bank was ceding ground to big foreign banks in arranging mergers. Many saw it as fit only to be taken over or broken up.

Mr Galateri has managed this sudden turnaround mainly by leaving things as they were. The bank's knowledge of corporate Italy remains second to none. It helps, no doubt, to have stakes in several big companies: 14% of Generali, Italy's largest insurer, for instance, as well as holdings in Telecom Italia, Fiat and Ferrari.

Even competitors admit that Mediobanca's corporate financiers are among Italy's best. According to Thomson Financial, a research firm, Mediobanca was the top intermediary in completed mergers and acquisitions in Italy in the first half of this year. “They are still in all key deals,” says Alberto Buffa di Perrero, of Standard & Poor's (S&P) in Milan. Credit losses are low. The Parmalat call was not a lucky guess; the bank has steered clear of all Italy's big post-war bankruptcies.

Yet the bank has weaknesses too. Those equity holdings expose it to stockmarket fluctuations and tie up capital. Mediobanca's managers admit that they are not extracting enough value from them. More serious, perhaps, is the bank's lack of international reach. Its staff number just 386 and only recently, with the opening of an office in Paris, has it ventured outside Italy. And the loan portfolio is limited to 130 Italian industrial groups. Twenty large loans represent about two-thirds of the total—a high concentration, says S&P, although the quality of the bankers and their knowledge mitigate the risk.

Ironically, the bank once known for Machiavellian manoeuvres is now in the clutches of a few big shareholders. The biggest are Capitalia and UniCredito, both commercial banks, owning 9.49% and 8.75% respectively. Then there are foreign investors led by Vincent Bolloré, a French corporate raider, and industrial shareholders, including Fiat and Pirelli.

The shareholders disagree about strategy. Because the two banks' investment-banking arms compete with Mediobanca, they are mainly interested in the return on its equity portfolio. Industrials think Mediobanca is still a useful puller of strings. Mr Bolloré's group seems simply to want its stake to be as profitable as possible. One insider compares shareholders' moves to a multidimensional game of chess.

A takeover looks improbable. A big foreign bank is unlikely to want an expensive institution covering only Italy—and in any case Antonio Fazio, the governor of the Bank of Italy, would probably try to block a foreign bid. Shareholders would oppose a bid by UniCredito or another Italian bank. Nor would they favour splitting Mediobanca's investment-banking business from its equity interests; the stakes are too useful in their power games.

Maybe Mediobanca could follow Cazenove, a British stockbroker, and discuss an alliance with (rather than takeover by) an international bank. But, given the clash of interests among Mediobanca's shareholders,

who would want to get involved?

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Converium

Convulsed

Sep 16th 2004
From The Economist print edition

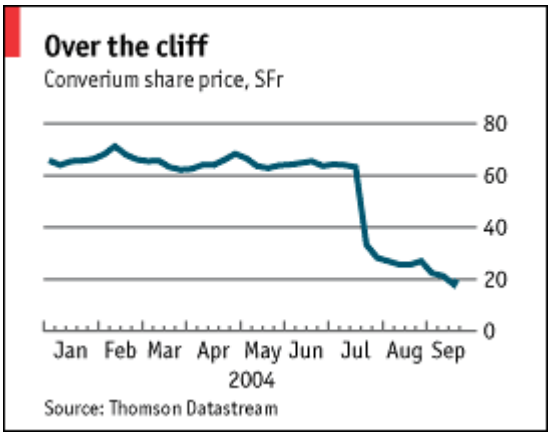
A reinsurer on the ropes

THERE is no end to the bad news for Converium, the world's ninth-biggest reinsurer by premium income. On September 10th Standard and Poor's (S&P) downgraded its credit rating by two notches to BBB, saying that “management credibility has been impaired”. The Swiss company's share price, already down by more than half this year, dropped by 16%.

Converium's woes started in July, when it suddenly said that reserves for its North American operations needed a boost of up to $400m owing to casualty claims (such as legal liabilities) between 1997 and 2001. The company took a $385m second-quarter charge. But following an independent review by Tillinghast, an actuarial firm, it might need another $50m-plus in the third quarter.

To raise new capital, Converium planned a rights issue of up to $420m. That strategy is now in turmoil. Since S&P's downgrade, Converium has put its large North American business into run-off, meaning it will accept no more new business. The head of operations there has resigned. Also under pressure is Dirk Lohmann, the chief executive; Converium has appointed a new managing director, from Tillinghast, to assist him.

Insurers often underestimate claims and so have to boost reserves. In July St Paul Travelers, an American insurer, said it needed $1.6 billion (about 4%) more reserves after accounts were reconciled following a merger. Disgruntled shareholders may pursue a class-action suit. Similarly, Converium's move took many by surprise. Several rivals, such as Munich Re, the world's biggest reinsurer, have had rights issues in recent years. Analysts wonder why Converium waited so long, when the hazards of American casualty claims were well known. The liabilities could perhaps have been better vetted long ago, before Converium was spun off from Zurich Financial Services in 2001.



What comes next? Converium may follow SCOR, a still-struggling French reinsurer that used a rights issue this year, in the wake of a downgrade. But whereas SCOR had the backing of a key shareholder, Groupama, Converium's base is less clear. Uncertainty and low ratings could hinder efforts to rebuild: insurers may be reluctant to place business with a weakly rated reinsurer.

A buyer could emerge: Converium's strong European franchise might tempt a well-capitalised American or Bermudian insurer. Another option is to run off its businesses, as the reinsurance arm of Gerling, a German company, did a few years ago. A financial firm that specialises in extracting value from run-offs could take on part of the job. For the time being, though, the ball is in Converium's court.

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Banking in South Korea

Bow down, or be cut down

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A reformist banker is ousted

BECAUSE most South Korean business practices lie somewhere between the clubby and the corrupt, you might expect anyone hoping for reform to be delighted. For the first time, the government has forced the departure of a wayward banker. In fact, reformists are incredulous. The banker, Kim Jung-tae, is chief executive of Kookmin Bank, South Korea's biggest, and has been pretty well regarded since he took the job in 2001. On September 10th, having found errors in Kookmin's accounting for bad-loan provisions, the Financial Supervisory Commission (FSC), the country's financial regulator, punished Mr Kim. He must step down next month, when his current term as Kookmin's head ends, and will be banned from executive posts in South Korean banks for three years.

A good thing too, you might suppose: bad accounting is all too common, and the man at the top should pay the price. Yet many investors consider the errors to be honest mistakes rather than attempts at deception. Foreigners own 78% of the shares—a sign, maybe, of their faith in the bank. By and large, shareholders have been well treated by Mr Kim, although his record has hardly been flawless: like other bank bosses, he expanded recklessly into credit-card lending and got burned.

Moreover, say some critics of the FSC, Mr Kim's punishment looks disproportionate when compared with the leniency that the government has shown to obvious scoundrels. Others have been more harsh. Jang Ha-sung, who heads the Asian Institute of Corporate Governance at Korea University and is usually eager to see offenders punished, believes the FSC's decision was “politically motivated”.

Mr Kim has crossed the bureaucracy before, protesting against the government's plans to arrange bail-outs for troubled firms. When SK Global, the oil-refining unit of South Korea's third-biggest conglomerate, was found to have committed accounting fraud, Mr Kim said that he did not think it would help his investors if Kookmin joined other banks in bailing the company out, and sold its loans at a steep discount. He also complained about a state-arranged rescue of the credit-card affiliates of the LG and Samsung groups, before his arm was twisted.

A member of the Bank of Korea's monetary policy board, Kim Tae-dong, criticised the FSC's decision in scathing terms on a radio programme. “Nobody [in the government] is willing to take responsibility for the [credit-card] crisis. Instead, it is sacking a bank chief who followed market principle,” said this Mr Kim. “The government clearly showed its muscle,” says Mr Jang, “and they didn't even hide their intentions.” Reformists have been urging the government for years to send a tough message to business and financial leaders. This was not what they had in mind.

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Share trading

Less information, please

Sep 16th 2004 | NEW YORK
From The Economist print edition

Big shareholders are seeking more opaque markets

AFTER centuries of experimentation, the business of trading shares is still evolving. The latest mutation appeared on September 9th, when Pipeline Trading opened for business in a run-down office, with second-hand furniture and wires dangling from the ceiling, near New York's Grand Central Station. Ignoring (or ignorant of) appearances, 40 of the largest investment firms in the world found their way into Pipeline's system. By the end of day one, it had processed 800,000 shares; by day four, more than 3m.

Although this pales before the billion or so shares traded daily on the New York Stock Exchange (NYSE), Pipeline is on to something. Another firm with a vaguely similar business model, Liquidnet, was founded in the slump of 2001 and has done nothing but grow ever since. It processes 20m shares a day. Curiously, the essence of both companies' strategies is to provide less than competing exchanges and brokers.

Trades through Pipeline can be done in only two sizes: 25,000 shares for most stocks, 100,000 for the biggest. Customers must provide their own price demands and have no guarantee that their orders will be executed. Liquidnet does not even provide trading, but merely alerts customers to the existence of other customers who might like to do business and then provides a way for them to negotiate with each other through its systems. A third firm, POSIT, allows trading only for one minute every half-hour. For these minimal services, each of the firms charges two cents a share, less than investment banks, which charge five cents, but more than electronic networks, which charge fractions of a cent.

These strategies are a response to an odd problem. Trading shares in large quantities has become increasingly difficult in American markets. Even as the volume of trading has continued to grow, the size of trades has shrunk, from more than 2,000 shares in the average NYSE transaction in 1988 to 400 today. The reason is that big institutions—mutual, pension and endowment funds—have come to believe that hedge funds and investment banks are too adept at using the information in the orders to make money for themselves. For example, a hedge fund or a bank might trade on its own account before executing a client's order. In response, investors are splitting deals into tiny pieces. An “iceberg” offer of a few hundred shares is floated to see if demand or supply can be teased out for a bigger transaction.

Thus tactic has its limits. Extraordinarily sophisticated computer programs can exploit the smallest transactions. Exchanges are aware of this, but can do little to stop it. In response to a scandal seven years ago, the Securities and Exchange Commission put through far-reaching changes in how orders are handled. The worst abuses, which concerned the poor treatment of orders from small investors, were purged through increased transparency. However, an unintended consequence of increased disclosure was to put large investors at the mercy of traders.

The answer offered by Pipeline, Liquidnet and POSIT is a system that provides anonymity. Lacking exchange status, these firms do not have to reveal orders (executed trades are posted on the NASDAQ). Their limited product offerings strip out information that could corrupt a trade. Their answer is not perfect. Customers have to have some sort of guide to the prices they are likely to get. Because orders are not revealed in the three companies' systems, benchmarks are taken from the better-known markets, notably the NYSE and the NASDAQ. If these new trading systems gain a large market share, the established benchmarks will lose their validity. That, however, is a concern for another day.

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Economics focus

Trade disputes

Sep 16th 2004
From The Economist print edition

Nagging doubts about the benefits of globalisation, and a look at the evidence

WHEN David Ricardo, a 19th-century economist, criticised England's protectionist corn laws, he based his argument on the notion of “comparative costs”, these days called comparative advantage. The idea, in brief, is that all countries can raise their living standards through specialisation and trade. Even if one country can make everything more cheaply than every other it still gains from focusing on the goods in which its relative advantage is greatest—ie, in which it has a comparative advantage—and importing the rest. But trade in Mr Ricardo's day involved grain sent by ship from Germany, not computer code sent by e-mail from India. As the production of goods and, increasingly, services is “outsourced” or “offshored” to developing countries, many people in rich countries worry that this new development in international commerce will do them and their national economies more harm than good.

Does such trade defy Mr Ricardo's insights, or does it lead, just like the old-fashioned kind, to greater overall prosperity? Two papers in forthcoming issues of the *Journal of Economic Perspectives*, both by greatly respected economists, confront this question. The first paper* is by Paul Samuelson, a Nobel laureate whose textbook has introduced students to economics for decades. He paraphrases the defence of free trade by “economists John and Jane Doe spread widely throughout academia”:

> Yes, good jobs may be lost here in the short run. But still total net national product ... Correct economic law recognises that some American groups can be hurt by dynamic free trade. But correct economic law vindicates the word “creative” destruction by its proof [sic] that the gains of American winners are big enough to more than compensate the losers.

Of course, says Mr Samuelson, Ricardo was right. Take the example of a poorer, less productive economy, and a richer, more productive one: say, China and America. In the classical model, trade does indeed benefit both economies. Though there are both winners and losers, the winners' gains exceed the losers' losses. Productivity gains in China's export sector raise total wealth in each country.

But, he adds, not so fast. Suppose the poor country, spurred by technical progress, improves productivity in the rich country's export goods: think of China's advances in semiconductors or India's in financial services. Then, says the theory, trade can turn entirely to the poor country's advantage. The improvement in productivity in the poor country can reduce the price of the rich country's exports by enough to make it worse off, despite the increased availability of cheaper goods. It may be that not just some Americans lose, but that the country as a whole is worse off.

Few mainstream economists doubt that this is possible, at least in theory. Mr Samuelson himself described the idea in the 1970s. Europeans worried about American growth in the 1950s for this reason, and Americans later worried about Japan. But evidence that it has been borne out in practice is thin. Mr Samuelson suggests that the move of textile manufacturing to the American South may have caused net losses in the North. Or that Malaysia's leap in rubber production may have had the same effect on Brazil. But both conclusions are uncertain, and there are not many other examples available.

Might the new wave of outsourcing to poor countries be different, and make rich countries poorer? On the empirical side, a paper† by Jagdish Bhagwati, author of a recent book on globalisation (and listed by Mr Samuelson alongside John Doe), Arvind Panagariya, his colleague at Columbia University, and T.N. Srinivasan of Yale provides more help. They show, also using classical trade models, that outsourcing is no different in economic terms from the trade that has been going on since Ricardo's time. The standard results still hold, including the possibility that a country's export prices could fall so much that it becomes

worse off. Then the authors cast an eye over the empirical evidence.

No pain, no gain?

How likely is offshoring to hurt America, they ask? Not very. The threat posed by Chinese and Indian innovation is overblown. The number of graduates likely to take white-collar jobs from westerners is nowhere near the 300m often said to be ready. As skills in China and India improve, trade with them will become more like that with other rich countries, from which America has historically benefited.

In any event, outsourcing abroad is too small to matter much. One of the most popularly cited estimates, by Forrester Research, is that 3.4m jobs will be outsourced by 2015. That may sound enormous, but it implies an annual outflow of only 0.5% of the jobs in the industries affected. In an average year, the American economy destroys some 30m jobs and creates slightly more, dwarfing the effect of offshoring.

The authors take a sanguine view about the quality of jobs that will replace those lost to outsourcing. American radiologists need not be condemned to flipping burgers when their work is shipped to Chennai. They can turn their skills to the obesity epidemic, or to the burgeoning field of plastic surgery. There is, surely, more than enough work to be done.

Does all this amount to a “proof” that trade can only help America's economy? No. But the marshalling of the evidence on outsourcing, such as it stands, should calm even the worst bout of trade jitters. Mr Samuelson's worries, for all his brilliance, can remain safely on the blackboard.

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* “Where Ricardo and Mill Rebut and Confirm Arguments of Mainstream Economists Supporting Globalization”. *Journal of Economic Perspectives*, Summer 2004.

† “The Muddles over Outsourcing”. *Journal of Economic Perspectives*, Fall 2004.

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Hurricanes

Shelter from the storm

Sep 16th 2004
From The Economist print edition

AFP

What hurricane scientists study when they study hurricanes

IVAN, the most powerful of this year's unusually intense crop of hurricanes, devastated parts of the Caribbean and killed dozens of people before striking the Gulf coast of the United States. Like Charley and Frances before it (and perhaps Jeanne after it), Ivan is likely to have caused substantial damage to property there. Indeed the cost of property damage by hurricanes has been climbing steadily in recent years—not because the hurricanes are getting worse (this year genuinely is unusual), but because more people live near the coast, where hurricanes inflict most of their damage.

Buildings, of course, cannot get out of the way. But people, given enough warning, can. As a consequence, hurricanes cause far fewer casualties than they once did. In 1900, for example, a hurricane that hit Texas killed 8,000.

That improvement is due, in part, to better forecasting. There are two main aspects of a hurricane that meteorologists seek to predict—its position and its intensity. Although substantial improvements have been made over the past 30 years in forecasting the track of a storm, predicting its intensity is another story. Despite a vast increase in computing power (and numerous other technological advances, ranging from new satellites to airborne capsules whose exact movement can be tracked using the Global Positioning System network of satellites), intensity predictions are hardly better than they were in 1974.

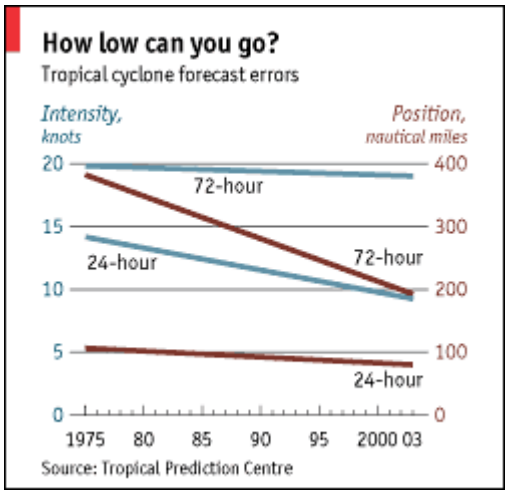
According to Sim Aberson, a scientist at the Hurricane Research Division of America's National Oceanic and Atmospheric Administration, in Miami, this is a problem of resolution. Hurricane computer models work by reducing the storm to a grid of points that interact with one another according to the model's rules. Even with improvements in computing power, the finest resolution these models can manage has grid points about 1km apart. Unfortunately, the features that cause hurricanes to gain or lose intensity are often smaller than this. In particular, the “eyewall”, the region of most intense winds surrounding the relatively tranquil eye of a hurricane, is only a kilometre or so wide, and understanding the nature of the eyewall is crucial to understanding a hurricane's behaviour.

Thomas Cram, of Colorado State University in Fort Collins, and his colleagues are, nevertheless, trying to simulate the process of energy exchange between a hurricane's eyewall and its eye. They have found that the eyewall is indeed a sturdy barrier. They sought to investigate the two opposing forces going on in it. The first is that moist, warm air from inside the eye can bleed into the eyewall. This is a source of heat, which boosts the hurricane's intensity. The second is that dry air from outside the eyewall can bleed into it, too. This calms things down.

Other groups are studying the eye itself. James Kossin of the University of Wisconsin-Madison made satellite observations of Hurricane Isabel, which struck America's east coast a year ago. Dr Kossin saw a complex pattern of vortices resembling a starfish in Isabel's eye. This was particularly exciting because simulations made two years previously had predicted the existence of such vortices, but they had not previously been seen. Their behaviour is important, according to Dr Kossin, because many earlier models of the eye had assumed that it was symmetrical, while the vortices observed, as predicted by his simulation, were not at all symmetrical. Such asymmetrical vortices are particularly effective at carrying winds from the eyewall into the eye.

And it is not only the small-scale features of hurricanes that are surprising people. Jason Dunion, also of the Hurricane Research Division, has been studying the Saharan air layer—a vast blanket of warm, dry air that comes off the Sahara desert during the summer, and can travel intact as far as the western Caribbean. Although its existence has been known since the 1960s, it could not be tracked systematically until quite recently. Mr Dunion has managed to do this by using a satellite to look at the air-mass at two different infra-red frequencies. These frequencies respond differently to the dust and dryness of the layer, so by comparing the signals, Mr Dunion can see the layer.

The layer's importance to hurricane research is that a lot of the big storms over the Atlantic interact with it. Because the super-dry air in the layer inhibits the intensification of storms, understanding that interaction is vital to understanding why nine out of ten big storms fizzle out.



A creature void of form

The difficulty of forecasting hurricane intensity is such that one group has simply given up trying to model precisely what is happening. Instead, Michael McGauley of the University of Miami uses so-called neural networks to predict the evolution of intensity. A neural network is a computer program that can be trained to look for correlations between inputs (in this case the same set of meteorological data that goes into detailed models of hurricanes) and outputs (in this case wind speeds). But it is not really a model of what is going on, because the process of correlation does not attempt to mimic the actual interactions inside a storm.

Nevertheless, Mr McGauley has found the technique effective. It significantly outperforms conventional models in its predictions of hurricane intensity both 24 and 48 hours into the future, although it is no better if asked to look 72 hours ahead.

Indeed, no matter what the technique, hurricanes are, for the time being, likely to continue acting in surprising ways. That is why Thomas Schmidlin of Kent State University, in Ohio, and his colleagues, performed an experiment during Isabel that was designed to help those caught out by inaccurate forecasts, or who have for some other reason failed to get out of the way before a hurricane strikes.

Dr Schmidlin placed a number of wind meters inside a multi-storey car park in Norfolk, Virginia, to see if it would make a decent place of refuge. The answer, perhaps surprisingly, was that it would—even though, like most such garages, it had large gaps between the floors for the wind to come through. Dr Schmidlin's measurements found that the wind died down substantially once one got more than a parking-space's worth of distance inside the structure. And multi-storey car parks are robust buildings, so the danger of collapse is minimal. The best advice if you are caught in a hurricane therefore seems to be to head for the nearest car park. And don't forget to take your sandwiches.

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Sailing

Winging it

Sep 16th 2004 | BRISTOL
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The world's most high-tech regatta, the Little America's Cup, has just started

A BOAT in an aeroplane hangar is an odd sight. Odder still is that instead of having a floppy fabric sail, this vessel—a catamaran—sports a rigid wing which appears as though it has been chopped from an aeroplane, propped upright, and tethered to the hulls. But *Invictus*, as the boat is named, is not as out of place as it looks, for it was designed by aerospace engineers and will be sailed by John Downey, a retired Concorde pilot.

A so-called C-class catamaran, *Invictus* is Britain's entry in the Little America's Cup—a sailing competition being held off the coast of Rhode Island from September 16th to 26th. *Invictus*, and *Ronstan*, an Australian boat, will be trying to take the cup from the American defender, *Cogito*.

C-class catamarans are the whippets of the yachting world. The relaxed membership rules of the category (maximum dimensions and sail area are prescribed, but little else is) have made C-class cats an experimental designer's dream. The result is vessels that can reach 30 knots (56kph) in a 15-knot wind—the sort of wind speed expected off the coast of Rhode Island at this time of year. In the proper America's Cup, by contrast, competitors would be lucky to reach 10 knots in such conditions.

The chief feature that distinguishes a modern C-class from a normal catamaran is that solid, wing-like sail. Just as an aircraft wing provides lift when air flows past it as the plane flies, so a solid sail provides lift as the wind blows past it—except that the “lift” drives the vessel forwards, because the sail is held upright at an angle to the wind. It is this lift-like force that can carry a boat forward faster than the wind that is propelling it.

Such forward-directed lift is not unique to a solid sail. A fabric sail also works at least partly in this way (the billowed curve induced in the fabric by the wind acts as an aerofoil). But conventionally rigged vessels cannot travel as fast as C-cats because canvas, and its modern replacements, have disadvantages over solid sails.

First, unlike a fabric sail, a rigid sail does not need to waste time finding its shape before lift happens. Second, a fixed sail's carefully designed shape produces lift at a much smaller angle to the wind than does a fabric sail. That means a C-class vessel can make small, rapid turns—an ideal feature for a race in which the boats zigzag their way up and down a fixed course.

Third, a rigid sail supports itself. That means the tension in the cables that attach it to the hulls is minimal. As a result, the hulls, and the bracing between them, do not need to be as strong (and therefore as heavy) as would otherwise be the case. Indeed, the vessel itself weighs little more than the two people who crew it.

Add flaps, which provide extra lift in gentle winds in the same way that they stop a plane from stalling when it is landing, and put a 15° twist in the sail to account for the fact that the wind at the top of a sail moves faster than the wind at the bottom, and you have the ultimate sailboat. Which of the three competitors is the ultimate ultimate will soon become clear.

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About sponsorship

Science policy

Double blind test

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From The Economist print edition

The two main presidential candidates go head-to-head over the Petri dish

SCIENCE, it seems, is a campaign issue these days. At least so say the world's two leading science journals, the venerable *Nature* and the esteemed *Science*. This week, both published a list of questions (15 in the case of *Nature*; 20 in the case of *Science*) addressed to George Bush and John Kerry, the two main candidates in the American presidential election, together with the answers they received.

The questions themselves speak volumes about what is on the mind of scientists: visa restrictions, stem cells, cloning, global warming, space exploration, secrecy, nuclear weapons, missile defence, the Endangered Species Act and—not least—how money is best spent on science.

Colin Macilwain, *Nature*'s news editor, says one reason for the prominence of science in this campaign is a series of media reports over the past few years about whether Mr Bush "cooks scientific advice". When, earlier this year, a lobby group called the Union of Concerned Scientists gathered complaints about the alleged politicisation of science in America, it was viewed by the administration as a political attack. Which it probably was, observes Mr Macilwain wryly.

Nevertheless, evidence for such politicisation is not too hard to find. For example, the National Institutes of Health, the main federal funding body for medical research, has admitted that scientists were indeed asked about their political views while being considered for appointment to various advisory councils. Grumblings about this have given Mr Kerry grounds to snipe that he will "bring science back into the White House".

The two candidates agreed on much. Both worried about the effect that visa restrictions have had on the flow of foreign scientists into America, while agreeing that changes to the visa system were necessary after the events of September 2001. Both, unsurprisingly, thought that spending on science and technology is good because innovation is good for the economy. And both supported the current emphasis on space exploration, although Mr Kerry made the obvious dig that little is to be gained from lofty goals without funding.

They differed, however, in their attitudes towards research using human stem cells. These are undifferentiated body cells that have the capacity to turn into lots of different sorts of working cell and might, therefore, form the basis of treatments for diseases caused by the selective death of particular cell types—Parkinson's disease, for example. Mr Kerry would lift Mr Bush's ban on federal funding of research on "lines" of stem cell created after August 2001. Mr Bush, of course, would maintain the ban.

Nature asked both candidates whether they supported research into new types of nuclear weapon—meaning, in particular, low-yield "mini-nukes" which some fear might blur the distinction between the existing weapons of mass destruction and armaments used routinely on the battlefield. Mr Kerry said he would end the pursuit of new nukes while Mr Bush said that America's nuclear infrastructure has atrophied and that more spending is needed. On missile defence—the idea that incoming ballistic warheads might reliably be shot down in mid-flight—Mr Bush wanted the technology deployed as soon as possible. Mr Kerry said that money spent on deployment would be wasted at this point and that additional research and development is required, since there are doubts about whether the system will work.

Mr Bush wanted the Endangered Species Act to be modernised. Many land owners feel it is Draconian and Mr Bush said he favours avoiding "unnecessary regulatory, economic and social burdens". However, when it came to biotechnology, he said he believed it was "important that our regulatory framework keeps pace with science". Mr Kerry, too, favoured more legislation in this area.

Overall, Mr Bush's answers tended to be long and detailed while Mr Kerry's were short and general. But Mr Bush did decline to answer one question: whether “cap and trade” programmes for greenhouse gases—a system that allows people to buy and sell permits to pollute—should start in the United States.

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Tourism

Computer browsers

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From The Economist print edition

Virtual tourists are helping the Swiss to plan their landscape

DO COWS improve the view? That is a question which interests the Swiss government, given that it subsidises farmers heavily to graze their cows in the mountains. One justification for the subsidy is that cows eat young trees, and fewer trees mean better vistas of the sort beloved by tourists. But just how much do cows improve the view and where do they provide most value for money?

To help answer these questions, Kai Nagel and his colleagues at the Swiss Federal Institute of Technology, in Zurich, have developed computer models of the Alps and populated them with virtual tourists (or “autonomous agents” in computer-speak) that can wander the electronic landscape. The agents are programmed to behave, as far as possible, like real tourists, and to record their impressions as they go.

An agent can be unleashed again and again on a particular part of the landscape, and will make decisions about where to go based on its previous experiences. After a few runs, agents start to avoid paths that they find uninteresting, and at the end of each simulation they provide feedback about their routes. Dr Nagel and the team use these data to work out how pleasurable each route was.

Employing a computer model rather than using real people in the real world has advantages, not least of which is that the sun always shines inside a model. More seriously, virtual people will walk the same routes thousands of times without complaint, and they cost less than real people. Perhaps most important of all, though, is that it is easy to change the landscape inside a model, felling trees to create an alpine meadow, growing an instant forest, or inserting a cable car to a particular plateau and seeing whether the agents take advantage of it in large numbers.

All this depends, of course, on understanding people's preferences and making the agents as similar to real tourists as possible. To make their model realistic, Duncan Cavens and Christian Gloor, the students who did the actual programming for Dr Nagel, walked through the Alps and talked to hikers they met along the way. They asked people what aspects of their hike they found most pleasurable, where the best viewpoints were and why they had chosen their route. And now that the model is up and running, Mr Cavens and Mr Gloor plan to test the accuracy of their agent-building by inviting real people to come and explore their virtual Alps. The feedback from the electronic hikes these people make will be used to program the agents to behave more realistically and thus point out those places where the cow-bells would ring to greatest effect.

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Mersey redivivus

Ancient or modern?

Sep 16th 2004 | LIVERPOOL
From The Economist print edition

Corbis

The city's past should teach Liverpool to look to commerce before culture

A HEADY year in the cultural life of Liverpool. On September 18th the port city's biennial exhibition of contemporary art opens at several venues, the biggest show of its kind that Britain has seen. For ten weeks, artists including Yoko Ono, the widow of John Lennon, perhaps the best-known Liverpudlian, will display pieces created for the occasion. Ms Ono, whose work includes writhing around in a bag with her first husband and lying in a bed with her second, has produced something called “My Mummy Was Beautiful”, which she will unveil in person at the show.

Another work, by a Swedish artist, Peter Johansson, consists of a big cricket pavilion hastily painted, inside and out, in bright red. Throughout the biennial, it will be responsible for the ceaseless emission across the River Mersey of “Dancing Queen”, a deliciously naff disco hit by the Swedish group Abba. This is Mr Johansson's statement about Sweden's failure to honour its richest pop icons in the way that Liverpool venerates the Beatles. Whatever else the show may be, says the local *Daily Post*, “it sounds like a lot of fun.”

The biennial comes two months after UNESCO declared a big chunk of the city to be a World Heritage site: Liverpool was, it said, “the supreme example of a commercial port of the 18th, 19th and early 20th centuries”. This honour is bestowed on extraordinary places whose conservation is considered to be of universal concern: sites such as the Taj Mahal, China's imperial palaces and Egypt's pyramids.

Many people who wish Liverpool nothing but the best (including this correspondent, who possibly was conceived here) feel that this is company in which the city's patchy maritime heritage does not easily stand up. As a commercial port of that era, does it really beat the architectural legacy of New Orleans or even Calcutta? And in Britain, does Liverpool deserve world-heritage status when Oxford, Cambridge, Edinburgh and the whole of London, including its port, do not?

Liverpool City Council hustled for UNESCO's blessing, because when the city emerged from economic depression and street riots in the 1980s, it looked to its unquestionably colourful past (darkened with slavery and opium) to help pull it out. The billion bricks of the old Albert Dock were restored and now house a branch of the Tate Gallery of modern art, a maritime museum, smart pubs, shops and cafés. Being a World Heritage site, the city hopes, will only enhance its charms, and bring in money as a tourist destination.

Several local organisations have expressed doubt about this strategy. A lobby group, Downtown Liverpool, says that UNESCO's imprimatur “will do untold damage”, by fossilising a city that is “commercial by nature and forward looking”; it will also, the group says, further encourage a mentality that looks first to handouts for help. Not that much can be hoped for from UNESCO: the World Heritage scheme has an annual budget of just $4m in all, and most of that gets allocated to sites in the world's poorest countries.

Downtown Liverpool's aim is to encourage a more dynamic city centre, one that will help Liverpool to “regain commercial power and cultural richness.” In that order. If the city's history teaches anything, it is that art follows money, not the other way round. The neo-classical Walker Art Gallery, with its Corinthian columns and exceptional collection of high Victorian art; the Anglican cathedral, which celebrates its centenary this year, with its shimmering west window by Carl Edwards; and the magnificent town hall, designed by John Wood and James Wyatt, two of Britain's greatest 18th-century architects: all are testament to the generous industrial patronage responsible for most of the city's heritage.

The irony is that prosperity is returning to Liverpool, regardless. A big local recruitment agency, called Bluefire, is trying to tempt the Liverpudlian diaspora to return and fill a growing number of job vacancies, especially among professional services. Local unemployment is coming down towards the national average. And Grosvenor Estates recently won approval for a plan to redevelop huge parts of the city centre. Liverpool may be recovering at last from the shock of finding itself in the wrong place when modes of trade and transport changed.

At the end of last week, the busiest place in town was neither the Abba pavilion nor the Albert Dock, but the open-air farmers' market that comes to central Lord Street twice a year. There, stalls selling Belgian chocolates, French saucissons and local fare were noisily competing for the attentions of the crowd. Liverpool seems to have rediscovered some of its commercial spirits, and therein lies the best hope for its heritage—and not in the fluffy nonsense of Liverpool being declared European Capital of Culture for 2008, which is the city authorities' current preoccupation.

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About sponsorship

Political theatre

The Hare's form

Sep 16th 2004
From The Economist print edition

Agitprop or art?

"STUFF happens," said Donald Rumsfeld in April 2003, when asked by reporters about the widespread looting that followed the American conquest of Baghdad. Of that, the American defence secretary was sure. What he cannot have imagined was that his pithy reply would, a year and a bit later, give rise to a play at Britain's National Theatre, written by an eminent English playwright, Sir David Hare. Mr Rumsfeld intended his remark to explain the messiness of politics and war, and of life and death. But the quotation serves equally well to describe the workings of drama, a medium in which stuff should happen—or you don't have a play.

The question was what kind of play Sir David would write about the build-up to war in Iraq. For he has made his career both in the world of imagined drama and out of pumped-up journalism. His 1990 play, "Racing Demon", about the Church of England, remains one of the defining pieces of British theatre of recent decades and falls very firmly into the first category. The second category includes last year's "The Permanent Way", an examination of railway privatisation as a metaphor for what supposedly does not work in modern-day Britain. Now that "Stuff Happens" has opened—Nicholas Hytner's production plays in repertory at the National's Olivier auditorium until November 6th—does it have anything to tell us that a close attention to political events would not? The answer, in some of the details, is yes, yet, overall, the answer is no. These are grim times, but it has not been strictly necessary for Sir David to tell us so.

His play does have a certain story-telling value that comes with the conflation into one long evening (it is a full three hours for the audience) of a sometimes dizzying narrative. Here spread across a cast of 22 are George Bush and Dick Cheney, played by Alex Jennings and Desmond Barrit, two highly regarded National Theatre mainstays, along with Tony Blair, Hans Blix and cameos from countless others, including Saddam Hussein. Joe Morton, the cast's lone American actor, may not have the physical heft of Colin Powell, but, on this performance, he imbues the American secretary of state with genuinely tragic status as a negotiator whose attempts at diplomacy were quite clearly doomed. (Near the end, Mr Powell is seen ranting about "the right-wing nutcases" in the White House, which surely goes against Mr Powell's stoic image.)

Though Sir David is emphatic that this is theatre, not docu-drama, nothing in the narrative, he underlines in a programme note, is "knowingly untrue"; a professional researcher was even hired to assemble the facts. In the play, recreations of well-known moments tumble out, including Mr Bush aboard the USS *Abraham Lincoln* cheering on his troops. Many private encounters are recreated, too, whose specifics Sir David can presumably only have guessed at. Some performances tally with the audience's probable preconceptions of the figures being played. Adjoa Andoh's Condoleezza Rice is a study in carefully coiffed cunning. Nicholas Farrell, by contrast, shows Tony Blair to be more craven than one might have thought possible.

Meanwhile, Mr Jennings brings to the American president a monosyllabic steeliness that cuts across the flippant, shallow image that satirists so love. When Bush tells Hans Blix (played, with a convincing air of bemusement, by Ewan Hooper) that he is no "mad Texan bent on war", the president is lifted above the plane of agitprop.

That in itself is no small achievement. But will "Stuff Happens" mean anything in ten years' time or even five? Or is it strictly for today? It is a hard call. Sir David, for one, has argued that his 1993 play "The Absence of War", about a fictional Labour leader clearly modelled on Neil Kinnock, has a deeper resonance with the passage of time. That limp play can hardly have got any worse with time. For now, the playwright has done well for giving the public persona of Dubya an added and unforeseen dimension, even if "Stuff Happens" remains too hidebound by recent history to make the imaginative leap into art.

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About sponsorship

New fiction

Fogbound

Sep 16th 2004
From The Economist print edition

CAN adults ever be as fascinated with magic as children? Bloomsbury, Harry Potter's publishers, hopes so. Having last year bought the English-language world rights to a first novel which took Susanna Clarke, a cookbook editor turned writer from Cambridge, a decade to finish, Bloomsbury is now launching it with its biggest ever marketing budget for a single book. The spend will be seen in big ways—radio advertising and an 11-city author tour of America—and small. Not only has the English manuscript been Americanised for the United States market, which is rather unusual these days; the dust jacket also comes in a choice of two colours, white or black.

Jonathan Strange & Mr Norrell
By Susanna Clarke

Bloomsbury; 800 pages; $27.95 and £17.99

Buy it at
Amazon.com
Amazon.co.uk

By next month, Bloomsbury clearly hopes that everyone in the English-speaking world will have heard of Jonathan Strange and his magician-master, Mr Norrell. But, when the time comes to separate the prose from the puff, a question remains: is the book any good? It is, but only in parts.

This year's Man Booker prize committee called in Ms Clarke's novel and put it on its longlist. Not all the judges were enthusiastic, though, and it remains to be seen whether the book goes any further. Certainly, it is a wonderful story, written in a rich and individual language full of literary allusions. It owes less to J.K. Rowling and Philip Pullman, its two most obvious popular antecedents, than it does to the highly observant and pointed Regency style of Jane Austen.

The action is spread over 11 years, from 1806, but the season is always winter. Dark, fog, mist and wet give the book much of its creepy, northern atmosphere. At the time that it opens, magic in England has diminished to little more than a vestige, a bit like Latin or ancient Greek. Along comes Mr Norrell, a miserly curmudgeon, “the sort of man who had been old at 17”, who stuns first his native Yorkshire and then London with a dazzling display of magical spells. He causes statues to speak and raises an important official's young fiancée from the dead.

Norrell is soon challenged by the emergence of a second magician, the tall, charming and arrogant Jonathan Strange. Norrell takes Strange as a pupil, and together they extend their renown still further. By obliging the government in summoning ghostly ships, calling up straight new roads overnight, moving rivers and changing the weather to help England win its war against Napoleon, the two become the toast of the capital.

As Strange's powers grow, so, too, do his ambitions. And this is where the book's problems also begin. Parallel to the story of the two magicians runs a sub-plot to do with a shadowy figure known as the Raven King, who has not been seen in England for years and years and years. Strange soon becomes obsessed with him, and his increasingly reckless attempts at summoning this legendary magician begin to threaten his partnership with Mr Norrell and everything else he holds dear.

As the Napoleonic wars draw to a close—about halfway through the book—Strange's quest for the Raven King moves to centre stage. The plot grows foggier as the action leaves London and moves northwards; where once the writing shone with humour and wit, it too begins to lose its shine.

By all means, read the book that everyone will be talking about this winter, but don't worry if you don't get through it. Not everyone will.

Jonathan Strange & Mr Norrell.
By Susanna Clarke.

Bloomsbury; 800 pages; $27.95 and £17.99

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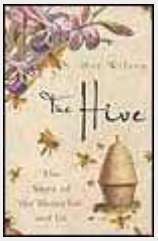
Bees

Hive society

Sep 16th 2004
From The Economist print edition

THE author's proposition is that humans have always viewed the beehive as a miniature universe with order and purpose—and have looked to the hive to make sense of human society. In her delightful book, Bee Wilson traces the ideas that humans have had about the hive, and how these ideas reflect prevailing views about the body politic.

The Hive: The Story of the Honeybee and Us
By Bee Wilson



John Murray; 308 pages; £14.99

Buy it at
Amazon.co.uk

In other words, bee politics have been invented to justify human ones. In particular, the hive has been a useful model for believers in a monarchy, providing a natural justification for rulers and the ruled. In 17th-century Europe, advocates of the divine right of kings claimed that a master bee was guarded by generals, marshals, colonels and captains, and that some of the honeybees had special tufts, tassels and plumes to distinguish the several ranks.

The brief abolition of the English monarchy in the mid-17th century saw the arrival of the commonwealth hive. Meanwhile, by 1740 a republican hive was all the rage in France. After the revolution disposed of French royalty, the tricky problem of explaining the queen's purpose was solved by asserting that true power, in fact, lay with the workers. Ms Wilson says that the hive has been, in turn, monarchical, oligarchic, aristocratic, constitutional, imperial, republican, absolute, moderate, communist, anarchist and even fascist. Never democratic, however.

Natural law, that is, the extrapolation from nature of laws for human society, has at times been a compelling idea. Yet why, through history, have so many thinkers looked to the hive for lessons about social organisation and politics? Honeybees, like humans, are social animals, a rarity in nature; and they produce a sweetness that humans, until recently, were unable to produce for themselves.

These useful little insects have thus become idolised as models of co-operative enterprise. The problem with this is that humans never saw the hive for what it was, but, rather, as evidence for their own prejudice and beliefs. So it has been harder than it should have been to understand the honeybee.

Most amusingly, this is seen in the long-mistaken gender of the queen bee. The idea of a king bee goes back to Greek and Roman times. Most looked at the hive, saw a large bee in charge, assumed it was stronger and more able than other bees, and drew the inference of a master bee. This all seemed perfectly logical until the invention of the microscope revealed an awkwardness: female genitalia.

The news was hard for some to take. One English clergyman and apiarist insisted in 1744 that the queen must be a virgin. It was too scandalous to imagine she might have sex with the males in the hive as if she were “a base, notorious, impudent strumpet, the most hateful and abominable whore with gallants by the hundreds”.

If there is a flaw in the book, it is that the reader learns nothing about why, as it seems, the buzz has finally gone out of politics. It is a rare politician who would dare to suggest that an insect might have an important lesson for today's society.

The Hive: The Story of the Honeybee and Us.
By Bee Wilson.
John Murray; 308 pages; £14.99

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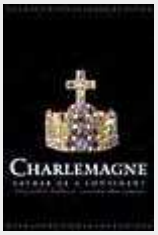
The Holy Roman emperor

Castles of sand

Sep 16th 2004
From The Economist print edition

TODAY Charlemagne is seen as the visionary behind “modern” Europe, in everything from political integration to the common currency. As such, the subtitle of this new biography is almost a given. Yet it is misleading. Alessandro Barbero chips away at the emperor's legacy until little more than mediocrity remains.

Charlemagne: Father of a Continent
By Alessandro Barbero. Translated by Allan Cameron



University of California Press; 438 pages; $29.95 and £18.95

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A conquering leader of a large country is bound to set his stamp upon the history books, no matter his talents. Charlemagne inherited a sizeable kingdom, and the rest he took with brawn, not brains. The Franks, the original band of the Carolingian Empire, were mighty, but boasted not a single military innovation. Pitched battles were avoided—Charlemagne is known to have been present at only two, from one of which he retreated. Rather, the army counted on an inexhaustible supply of men and beasts to sow terror deep in enemy territory and to set up debilitating sieges that lasted for months. Ironic, that, for a people convinced that they descended from the besieged Trojans.

One tactic associated with the king, the pincer movement, was driven more often by the necessity of splitting up unwieldy armies of men and oxen. Yet given primitive communications, generals found it hard to co-ordinate several divisions advancing on an enemy from different sides, and the famed manoeuvre could be disastrous. Though the Franks hardly ever lost a campaign, they never built an enduring defence. Viking invasions were putting dents in the empire even as Charlemagne still ruled.

This inability to create durable institutions is Charlemagne's real legacy. The Frankish king did manage to become the Holy Roman emperor, pre-empting the authority of the church, even in theological matters. That was perhaps not hard to do when successive popes ran to you for protection from barbarians or from palace schemers.

Charlemagne simplified scripts, which helped unite the empire. Other ambitious reforms, however, went unimplemented during his reign, or they collapsed after his death. Free men became enslaved; the rich hijacked the justice system; exorbitant tolls, which Charlemagne had banned, sprang up again to stifle commerce. Life in the conquered provinces was Hobbesian: there were two great famines during his reign, and subjects complained of extortion by their feudal lords. We know of these complaints because the king at least sent envoys to investigate them. Yet he never set up the checks to control the abuses. After all, the increasingly feudal system served him well.

Charlemagne's economic reforms were ad hoc. Attempts to create a single system of weights and measures never gained ground. His currency reform, which consisted of issuing lower-denomination money, did not go far enough to lubricate trade. Instead of patching things up with the Arabs who controlled Mediterranean trade, Charlemagne watched as his merchants were driven to deal mainly with the poorer north. Benedictine monks were told to use lard and butter in place of olive oil.

Many of the empire's failures lay in the man himself. Half-educated—able to read, but not to write—Charlemagne was vulgar and easily flattered. He was also capricious, at times pardoning his enemies, but on one occasion decapitating 4,500 surrendering Saxons. Though he loved making laws, few survived him.

Mr Barbero's account is nuanced and remains fair to his subject. Even so, the book is a warning to any European elite that thinks that its will alone can create an enduring Europe.

Charlemagne: Father of a Continent.
By Alessandro Barbero. Translated by Allan Cameron.
University of California Press; 438 pages; $29.95 and £18.95

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About sponsorship

Alexander Hamilton

Upstart

Sep 16th 2004 | NEW YORK
From The Economist print edition

A hero gets his due at last

TWO centuries too late, perhaps, but New York has got round to celebrating a man who in so many ways represents the city's best virtues. Alexander Hamilton was illegitimate, an immigrant from a troubled home, bursting with talent and ambition. He was the ultimate “upstart in an upstart city”, says Louise Mirrer, president of the New York Historical Society, which has just opened an impressive exhibition to mark the 200th anniversary of Hamilton's death, along with its own bicentenary.

Hamilton's role as the architect of America's financial system is fairly well known: he founded the Treasury department and unified the national currency and debt. Yet he has, says Richard Brookhiser, curator of the exhibition and a biographer of Hamilton, “had a bad 60 years”. Recently, a lobbying effort attempted to scrub his face from the $10 bill in favour of Ronald Reagan's.

As the exhibition makes clear, Hamilton laid a foundation for much of what America was to become. In law, he established the principle of judicial review, giving the courts authority over the political branch. Hamilton co-founded New York's Manumission Society at a time when one-fifth of the city owned slaves. After serving as General George Washington's chief of staff, he came to believe in a strong military; as a shaper of President Washington's foreign policy, he ensured that America would not become enmeshed in Europe's tangled alliances.

Hamilton advanced his vision of government through relentless argument, often in popular papers, including his own, the *New York Evening Post*. Many pieces were dashed off on Hamilton's lap, as he pressed on a tiny piece of wood, on display, travelling between the courts in New York City and Albany. Hamilton's life ended in a duel with Vice-president Aaron Burr. At the entrance to this exhibition, Burr's statue faces his opponent: two small men, one aiming to kill, the other to miss.

“Alexander Hamilton: The Man Who Made Modern America” is at the New York Historical Society until February 28th 2005

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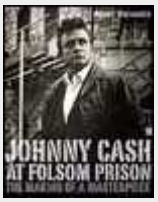
American legend

Ring of firesales

Sep 16th 2004
From The Economist print edition

THE saving grace of estate sales is that they take place after you die. Who really wants to suffer the indignity of finding out exactly how much value fetishistic collectors place on one's old jeans or expired credit cards? This week's sale by Sotheby's in New York of the stuff of Johnny Cash and his wife June Carter Cash (on the first anniversary of his death) seems particularly jarring, since the singer's fame rests on his musical authenticity and on his championing of the downtrodden. Here, in New York, it was the smart set who were expected to fork out millions for Cash memorabilia, including his guitars and black duster coats, and her Navajo jewellery.

Johnny Cash at Folsom Prison: The Making of a Masterpiece
By Michael Streissguth



Da Capo Press; 191 pages; $24

Buy it at
Amazon.com
Amazon.co.uk

Yet despite his legend as the “Man in Black”, defender of the underdog, in life Cash had always compromised. Like others who straddle the divide between entertainment and art, he had had to sacrifice purity for popularity. As Michael Streissguth recounts, even on the day that did more than any other to establish the legend—June 13th 1968, when Cash gave a live concert at Folsom, a maximum-security prison in California—Cash was as much a showman as he was a saviour. Applause from the inmates was dubbed into the recording, which was itself spliced together from two concerts on that day, not one, as the publicity pretended. The superfluity was, Mr Streissguth says, in order to satisfy the needs of the record company rather than the prisoners.

In 1968, Cash was at a low point in his career, somewhat famous but not yet an icon. It was the Folsom prison recording that set him on the upward trajectory that established him as one of the great American musicians of the second half of the 20th century. As such, a book about that single day has great potential—a prose poem might be called for, perhaps, a meditation on a cultural moment of radiating significance.

AP

Stuck at Folsom prison

This book falls sadly short of the mark. Mr Streissguth's prose is tired and, at times, awkward. At the very least, the book could have done with a good editor, for the organisation is slapdash. It seems churlish to criticise a book so clearly written with both affection and a critical eye. Yet Mr Streissguth nonetheless reminds us that remarkable subject matter does not guarantee a remarkable book.

All the same, the book is redeemed by its pictures: a striking one of Cash on the cover, taken by Jim Marshall, who accompanied Cash to the prison concert, and many good ones inside. Otherwise, you are better off with a recording of those two concerts rolled into one.

Johnny Cash at Folsom Prison: The Making of a Masterpiece.
By Michael Streissguth.
Da Capo Press; 191 pages; $24

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About sponsorship

Obituary

Beyers Naudé

Sep 16th 2004
From The Economist print edition

Christiaan Frederick Beyers Naudé, an Afrikaner cleric who turned on apartheid, died on September 7th, aged 89

Time Life-Getty

FOR Beyers Naudé, it was “the day my conscience came out of hiding”. South African police had shot dead 69 blacks in a township called Sharpeville. They had dared oppose a law that stopped blacks going into whites-only areas. Until that day in 1960 Mr Naudé, like most whites, believed apartheid was a good way to run things. He quelled doubts from his student days. Sharpeville's murders changed that. They showed anew the wretched conditions of blacks and the violence meted out by whites. Like other pious Afrikaners, Mr Naudé looked for justification in the Bible; unlike them, he found none.

Other men of the cloth spoke out earlier or more noisily than Mr Naudé. By the time he turned against apartheid, he had the example of Trevor Huddlestone to follow. The British missionary spent years before Sharpeville working and living in Sophiatown, a mixed-race slum in Johannesburg, and led protests when the authorities razed it. Later, in the final decade of apartheid, Desmond Tutu won far more acclaim (and a Nobel peace prize) campaigning for non-racial rule.

Mr Naudé was quieter, more bank-manager than revolutionary. And those troublesome priests had a big advantage. They, and others who protested, were Anglicans and Anglophone. They got support from outside the country. More important, they had backing inside it, from black South Africans and a few English-speaking whites. Oom Bey—Uncle Bey, as Mr Naudé became known—was alone, a doubting leader of the Nederduitse Gereformeerde Kerk, the Dutch Reformed Church.

It took courage to turn on apartheid from deep within Afrikanerdom. It meant turning on his family, his community and his past. “It felt like a pincer-movement closing in on the foundations of your life,” he said. Those foundations were rock-solid Afrikaner nationalist. His father was a “bitter-ender” in the Boer war who refused to give up his guns in defeat and named his son after a dead Boer general. He went on to study at the great Afrikaner university of Stellenbosch, under Hendrik Verwoerd. An attractive and popular preacher, he soon became a moderator in the church and, at 25, the youngest-ever member of the Broederbond, the secret Afrikaner society his father had helped form.

Turning his back on that was not only painful for him, but for apartheid's leaders too. A Brit or a black might protest, muttered Afrikaners, but this man could have led the church or even the country. Mr Naudé knew he annoyed them: “I was every bit as much of a white Afrikaner as they were.” But where they ordered repression, he spoke of the Afrikaner tradition of fighting it. When they ordered ethnic groups to live apart, he spoke persuasively about getting along.

He helped draft a statement by churchmen that condemned the Sharpeville killings. Verwoerd, by now prime minister, denounced it and forced the Dutch Reformed Church to withdraw. Mr Naudé persisted. No authority was higher than God, he argued. The moral basis of apartheid was a sham.

Inevitably, he was called a traitor. Within three years of Sharpeville he was pushed out of the church (though welcomed into the black arm of it). He told his wife Ilse to expect to spend a decade as outcasts, but they spent three. He formed the Christian Institute, which strove to improve race relations. Police

forced it shut in 1977. He was called an enemy of the state.

Bullets, if necessary

Instead he worked with another broad church of sorts, the multiracial African National Congress, which welcomed all-comers in the fight against apartheid. He eventually led the South African Council of Churches, a body that dared to criticise white rule, taking over from Archbishop Tutu. Though he never fired a bullet, he thought it would be right to do so, just as German theologians had backed plots to kill Hitler. He helped smuggle ANC activists from place to place, using battered old Peugeot 404s he repaired himself. He handed out illegal pamphlets, met journalists and leaked details of the Broederbond's activities. His reward was house arrest, petrol bombs and official harassment.

Yet the charge of betraying his tribe did not stick. Mr Naudé successfully sued another cleric who called him a communist. Younger Afrikaners who were ashamed of apartheid learned from him that they could be proud of their background and their language. Many black Africans such as Mosiuoa Lekota, now minister of defence, saw him as a reminder that the anti-apartheid struggle was one for democracy, not an assault on Afrikaners in particular or on whites in general.

He liked what he saw of the new South Africa, but thought a couple of decades, at least, were needed to get over problems. Reconciliation would take time. President Thabo Mbeki ordered a special funeral for him. Another memorial is already in place. A few years ago a main road near his home in Johannesburg was named after him, replacing signs for D. F. Malan, the first apartheid prime minister. Vandals, presumably still-bitter-ender Afrikaners full of Dutch courage, spent many weekends smashing down the new signs that bore his name. They were put back again until the vandals gave up: just the sort of quiet persistence Mr Naudé would have appreciated.

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Overview

Sep 16th 2004
From The Economist print edition

American industrial production rose by a mere 0.1% in August, compared with analysts' expectations of a 0.5% rise. Core producer-price inflation, which excludes the volatile prices of food and energy, fell to 1.5% in the year to August. In July, America's goods trade deficit narrowed to $50.1 billion as exports grew and imports shrank. The current-account deficit, however, widened to a record high of $166.2 billion in the second quarter.

Japan's GDP growth for the year to the second quarter was revised down to 4.2% from 4.4%. Government spending was lower than originally estimated, but business investment was higher. Consumer confidence rose in August.

Economic sentiment in **Germany** weakened. The ZEW index fell unexpectedly to its lowest level in more than a year. According to revised figures, **France's** economy grew by 3.0% in the year to the second quarter, up from 2.8% in the earlier estimate. Industrial production in France rose by 2.5% in the year to July. Consumer-price inflation in **Spain** ran at to 3.3% in the year to August.

Switzerland's economy is perking up. GDP grew by 2.0% in the year to the second quarter, up from 1.5% in the year to the first quarter.

Britain's consumer-price inflation slowed to 1.3% in the year to August from 1.4% in the year to July.

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Output, demand and jobs

Sep 16th 2004
From The Economist print edition

% change on year ago

	GDP latest		GDP qtr*	The Economist poll GDP forecasts 2004	2005	Industrial production latest		Retail sales (volume) latest		Unemployment % rate latest		year ago
Australia	+ 4.1	Q2	+ 2.5	+ 3.6	+ 3.3	– 1.1	Q1	+ 7.9	Q2	5.7	Aug	6.2
Austria	+ 0.5	Q1	+ 0.8	+ 1.6	+ 2.1	+ 4.3	Jun	– 4.7	May	4.2	Jul	4.5
Belgium	+ 2.7	Q2	+ 3.0	+ 2.4	+ 2.1	+ 1.5	Jul	+ 4.4	Jun	13.2	Aug†	13.3
Britain	+ 3.7	Q2	+ 3.8	+ 3.4	+ 2.7	+ 0.1	Jul	+ 6.6	Jul	4.7	Jul††	5.1
Canada	+ 3.0	Q2	+ 4.3	+ 3.0	+ 3.4	+ 5.0	Jun	+ 3.1	Jun	7.2	Aug	8.0
Denmark	+ 2.5	Q2	+ 0.9	+ 2.1	+ 2.3	+ 0.7	Jul	+ 4.9	Jul	6.2	Jul	6.0
France	+ 3.0	Q2	+ 3.4	+ 2.4	+ 2.2	+ 2.5	Jul	+ 2.1	Jul	9.8	Jul	9.8
Germany	+ 2.0	Q2	+ 1.9	+ 1.5	+ 1.7	+ 2.2	Jul	nil	Jul	10.6	Aug§	10.6
Italy	+ 1.2	Q2	+ 1.1	+ 1.2	+ 1.7	– 1.2	Jul	– 0.8	Jun	8.5	Jan	8.9
Japan	+ 4.2	Q2	+ 1.3	+ 4.5	+ 2.3	+ 5.9	Jul	– 2.9	Jun	4.9	Jul	5.3
Netherlands	+ 1.0	Q2	– 0.8	+ 1.3	+ 1.7	+ 0.2	Jul	– 0.7	Jun‡	6.2	Jul**	5.3
Spain	+ 2.6	Q2	+ 2.0	+ 2.8	+ 2.8	+ 0.4	Jul	+ 3.0	Jul	11.0	Jul	11.3
Sweden	+ 3.4	Q2	+ 3.8	+ 3.0	+ 2.7	– 0.1	Jul	+ 3.2	Jul	5.5	Aug†	5.4
Switzerland	+ 2.0	Q2	+ 1.6	+ 1.9	+ 2.0	+ 4.5	Q1	– 0.8	Jul	3.7	Aug†	3.6
United States	+ 4.7	Q2	+ 2.8	+ 4.3	+ 3.4	+ 5.2	Aug	+ 5.5	Jul	5.4	Aug	6.1
Euro area	+ 2.0	Q2	+ 2.1	+ 1.8	+ 2.0	+ 2.7	Jun	+ 1.1	Jul	9.0	Jul	8.9
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*											
Finland	+ 2.8	Q2	+ 4.0	na	na	+ 7.8	Jul	+ 3.4	Jun	7.8	Jul†	7.9
Greece	+ 3.9	Q2	– 0.6	na	na	– 0.6	Jul	+ 5.5	Jun	na		na
Iceland	+ 4.9	Q1	na	na	na	na		na		3.1	Jun†	3.2
Ireland	+ 6.1	Q1	na	na	na	+ 4.2	Jun	+ 3.3	Jun	4.3	Aug	4.7
Luxembourg	+ 2.1	2003	na	na	na	– 1.2	Dec	+ 3.4	Apr	4.0	Jul	3.6
New Zealand	+ 4.4	Q1	+ 8.1	na	na	+ 5.5	Q1	+ 6.8	Q2	4.0	Q2	4.7
Norway	+ 4.1	Q2	+ 5.0	na	na	+ 3.5	Jul	+ 2.0	Jul	4.6	Q2	4.7
Portugal	+ 1.5	Q2	+ 4.7	na	na	– 3.4	Jul	+ 2.8	Jul	6.3	Q2†	6.1

*% change on previous quarter at an annual rate. †Not seasonally adjusted. ‡New series. ††May-Jul; claimant count rate 2.7% in Aug. §EU harmonised rate 9.9% in Jul. **Jun-Aug.

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About sponsorship

Prices and wages

Sep 16th 2004
From The Economist print edition

% change on year ago

	Consumer prices			The Economist poll consumer prices forecast		Producer prices			Wages/earnings		
	latest		year ago	2004	2005	latest		year ago	latest		year ago
Australia	+ 2.5	Q2	+ 2.7	+ 2.4	+ 2.6	+ 2.8	Q2	+ 0.2	+ 2.9	Q2	+ 5.5
Austria	+ 2.4	Aug	+ 1.1	+ 1.6	+ 1.5	+ 6.3	Aug	+ 1.3	+ 1.9	Jul	+ 2.3
Belgium	+ 2.3	Aug	+ 1.8	+ 1.9	+ 1.6	+ 5.3	Jul	– 1.3	+ 2.3	Apr	+ 1.7
Britain	+ 1.3	Aug*	+ 1.4	+ 1.5	+ 1.8	+ 2.6	Aug	+ 1.5	+ 3.8	Jul†	+ 3.3
Canada	+ 2.3	Jul	+ 2.2	+ 2.0	+ 2.2	+ 5.0	Jul	– 1.6	+ 3.2	Jun	+ 3.8
Denmark	+ 1.2	Aug	+ 1.7	+ 1.2	+ 1.8	+ 2.7	Jul	– 0.1	+ 3.3	Q1	+ 3.9
France	+ 2.4	Aug	+ 1.9	+ 2.2	+ 1.6	+ 2.2	Jun	+ 0.9	+ 2.8	Q1	+ 2.9
Germany	+ 2.0	Aug	+ 1.1	+ 1.7	+ 1.3	+ 4.2	Aug	+ 0.5	+ 1.4	Jun	+ 2.0
Italy	+ 2.3	Aug	+ 2.8	+ 2.3	+ 2.1	+ 3.3	Jul	+ 1.3	+ 3.2	Jul	+ 2.1
Japan	– 0.1	Jul	– 0.2	– 0.1	+ 0.2	+ 1.7	Aug	– 0.7	+ 2.0	Jul	+ 3.6
Netherlands	+ 1.1	Aug	+ 2.1	+ 1.4	+ 1.4	+ 4.9	Jul	+ 0.2	+ 1.2	Aug	+ 2.5
Spain	+ 3.3	Aug	+ 3.0	+ 2.9	+ 2.7	+ 4.1	Jul	+ 1.1	+ 3.2	Q1	+ 4.9
Sweden	+ 0.6	Aug	+ 1.7	+ 0.8	+ 1.5	+ 1.9	Jul	– 1.5	+ 1.1	Jun	+ 3.5
Switzerland	+ 1.0	Aug	+ 0.5	+ 0.7	+ 1.1	+ 1.3	Jul	– 0.7	+ 1.4	2003	+ 1.8
United States	+ 3.0	Jul	+ 2.1	+ 2.7	+ 2.4	+ 3.4	Aug	+ 3.5	+ 2.3	Aug	+ 2.6
Euro area	+ 2.3	Aug	+ 2.1	+ 2.1	+ 1.7	+ 2.8	Jul	+ 1.1	+ 2.2	Q2	+ 3.3
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*										
Finland	+ 0.4	Aug	+ 0.6	na	na	+ 1.5	Jul	– 0.4	+ 3.5	Q2	+ 4.4
Greece	+ 2.7	Aug	+ 3.3	na	na	+ 2.3	Jul	+ 2.9	na		na
Iceland	+ 3.7	Aug	+ 2.0	na	na	+ 5.2	Jul	+ 3.3	+ 5.1	Jul	+ 5.7
Ireland	+ 2.6	Aug	+ 3.2	na	na	– 0.7	Jul	– 8.2	+ 6.1	Q4	+ 6.4
Luxembourg	+ 2.4	Jul	+ 1.6	na	na	+ 9.0	Jun	+ 2.3	– 0.4	Dec	+ 0.7
New Zealand	+ 2.4	Q2	+ 1.5	na	na	+ 1.5	Q2	– 1.9	+ 2.3	Q2	+ 2.3
Norway	+ 1.0	Aug	+ 2.1	na	na	+16.4	Aug	+ 6.1	+ 4.6	Q1	+ 5.3
Portugal	+ 2.3	Aug	+ 2.8	na	na	+ 4.2	Jul	– 0.4	+ 1.3	May	– 1.9

*New series. RPI inflation rate 3.2% in Aug. †May-Jul.

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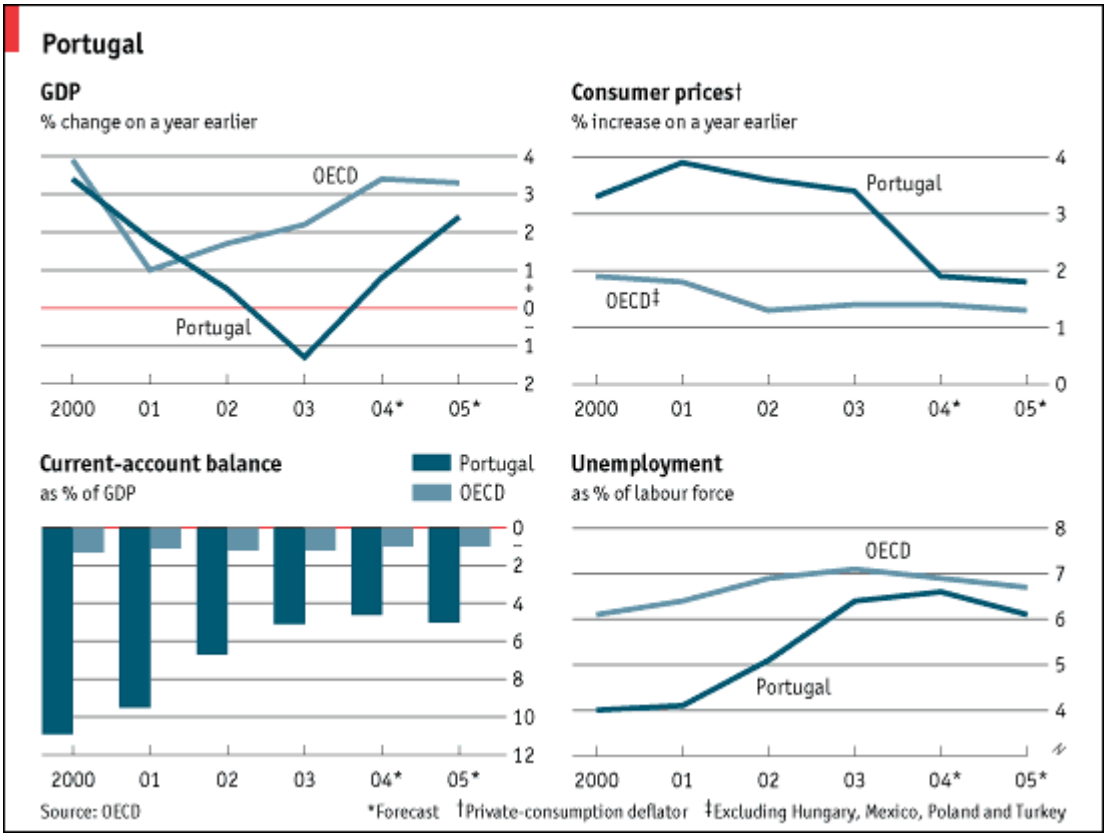
Portugal

Sep 16th 2004
From The Economist print edition



With the lowest income per person of any country in the euro area, Portugal's main challenge is to raise the country's sustainable growth rate, according to a report by the OECD. Portugal's recent recession came later than in the rest of the European Union, but it was deeper: GDP fell by 1.3% in 2003. After a spending binge in the late 1990s, Portugal was forced to adopt emergency budget-cutting measures in 2001 after its fiscal deficit exceeded the 3% ceiling allowed under the EU's stability pact. Although the economy is showing signs of recovery, the government still relies on one-off measures and budget freezes to stay within the pact's deficit ceiling. The OECD reckons these measures should be phased out and replaced with a broader effort to improve the efficiency and quality of public spending. Improving labour productivity would also help.

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Money and interest rates

Sep 16th 2004
From The Economist print edition

	Money supply* % change on year ago			Interest rates % p.a. (Sep 15th 2004)					
				3-mth money market		2-year	10-year gov't bonds		corporate
	narrow	broad		latest	year ago	gov't bonds	latest	year ago	bonds
Australia	+ 5.5	+12.0	Jul	5.41	4.95	5.00	5.33	5.56	6.13
Britain	+ 5.6	+ 8.8	Jul	4.78	3.63	4.77	4.91	4.65	5.64
Canada	+10.8	+ 7.4	Jul	2.36	2.65	3.09	4.64	4.77	6.14
Denmark	+ 8.4	+10.3	Jul	2.25	2.30	2.80	4.14	4.34	5.40
Japan	+ 3.8	+ 1.9	Aug	0.02	0.01	0.14	1.53	1.44	1.60
Sweden	+ 1.5	+ 2.3	Jul	1.98	2.71	2.77	4.32	4.70	2.83
Switzerland	+ 3.8	+ 3.0	Jul	0.67	0.25	1.16	2.61	2.70	2.41
United States	+ 4.0	+ 4.8	Jul	1.84	1.08	2.45	4.17	4.19	5.72
Euro area†	+10.1	+ 5.5	Jul	2.12	2.15	2.56	4.02	4.25	3.82

*Narrow: M1 except Britain and Sweden M0, broad: M2 or M3 except Britain M4. †Germany for bonds. Benchmarks: US 30-year 4.96%, Japan No. 263 1.62%. Central bank rates: US fed funds 1.50%, ECB refinancing 2.00%, BOJ overnight call 0.001%, BOE repo 4.75%. Sources: Commerzbank, Danske Bank, J.P. Morgan Chase, Royal Bank of Canada, Stockholmsbörsen, UBS, Global Insight, Westpac, Thomson Datastream. Rates cannot be construed as banks' offers.

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The Economist commodity price index

Sep 16th 2004
From The Economist print edition

1995=100

	Sep 7th	Sep 14th*	% change on one month	% change on one year
Dollar index				
All items	88.1	87.8	– 1.7	+10.0
Food	81.7	81.0	– 1.9	+ 2.4
Industrials				
All	96.8	97.0	– 1.6	+20.1
Nfa†	92.9	90.6	+ 0.1	+ 4.0
Metals	100.2	102.3	– 2.8	+35.9
Sterling index				
All items	78.4	76.9	– 0.2	– 2.9
Euro index				
All items	96.0	94.0	– 1.4	+ 0.2
Yen index				
All items	102.6	102.3	– 2.1	+ 3.5
Gold				
$ per oz	399.00	406.13	+ 0.7	+ 9.0
West Texas Intermediate				
$ per barrel	43.23	44.40	– 5.1	+61.0

* Provisional. † Non-food agriculturals.

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Stockmarkets

Sep 16th 2004
From The Economist print edition

Market indices

	Sep 15th	2004 high	2004 low	% change on one week	% change on record high	% change on Dec 31st 2003 in local currency	% change on Dec 31st 2003 in $ terms
Australia (All Ordinaries)	3,636.5	3,636.5	3,274.9	+ 1.1	nil	+10.0	+ 1.5
Austria (ATX)	1,983.9	2,047.0	1,568.9	- 1.7	- 3.1	+28.4	+23.6
Belgium (Bel 20)	2,656.2	2,656.2	2,244.2	+ 0.9	-27.9	+18.4	+14.0
Britain (FTSE 100)	4,548.4	4,575.7	4,287.0	- 0.2	-34.4	+ 1.6	+ 0.8
Canada (Toronto Composite)	8,467.0	8,898.8	8,123.5	+ 1.3	-25.7	+ 3.0	+ 2.2
Denmark (KBX)	243.5	246.4	219.0	- 0.4	-19.3	+14.0	+ 9.9
France (SBF 250)	2,522.7	2,594.4	2,386.1	+ 0.6	-42.5	+ 4.6	+ 0.7
(CAC 40)	3,691.9	3,811.4	3,465.3	+ 0.4	-46.7	+ 3.8	- 0.1
Germany (DAX)	3,941.8	4,151.8	3,647.0	+ 1.5	-51.1	- 0.6	- 4.3
Italy (BCI)	1,315.2	1,340.3	1,239.5	+ 0.6	-39.7	+ 4.7	+ 0.8
Japan (Nikkei 225)	11,158.6	12,163.9	10,365.4	- 1.1	-71.3	+ 4.5	+ 1.6
(Topix)	1,128.4	1,217.9	1,022.6	- 1.4	-60.9	+ 8.1	+ 5.1
Netherlands (AEX)	332.1	364.8	310.7	+ 0.2	-52.7	- 1.7	- 5.3
Spain (Madrid SE)	852.6	881.7	804.4	- 0.3	-25.6	+ 5.5	+ 1.6
Sweden (Affarsvarlden Gen)	203.9	218.1	188.5	nil	-49.1	+ 8.2	+ 3.6
Switzerland (Swiss Market)	5,536.6	5,934.4	5,309.8	- 0.4	-34.2	+ 0.9	- 1.8
United States (DJIA)	10,231.4	10,737.7	9,814.6	- 0.8	-12.7	- 2.1	- 2.1
(S&P 500)	1,120.4	1,157.8	1,063.2	+ 0.4	-26.7	+ 0.8	+ 0.8
(NASDAQ Comp)	1,896.4	2,153.8	1,752.5	+ 2.5	-62.4	- 5.3	- 5.3
Europe (FTSE Eurotop 300)*	991.4	1,026.2	940.9	nil	-41.9	+ 3.5	- 0.3
Euro area (FTSE Ebloc 100)*	840.8	888.3	787.2	+ 0.6	-45.8	+ 1.1	- 2.6
World (MSCI)†	1,044.6	1,085.8	997.0	+ 0.1	-27.9	+ 0.8	+ 0.8
World bond market (Citigroup)‡	604.6	619.5	575.1	+ 0.2	- 2.4	+ 0.2	+ 0.2

*In euro terms. †Morgan Stanley Capital International index includes individual markets listed above plus eight others, in $ terms.
‡Citigroup World Government Bond Index, total return, in $ terms.

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Trade, exchange rates and budgets

Sep 16th 2004
From The Economist print edition

	Trade balance*, $bn latest 12 months		Current account $bn latest 12 mths		The Economist poll % of GDP, forecast 2004	2005	Exchange rate trade-weighted† 1990=100 Sep 15th	year ago	Currency units per $ Sep 15th	year ago	per £	per euro	per ¥100	Budget balance % of GDP 2004‡
Australia	− 16.8	Jul	− 34.2	Q2	− 5.6	− 4.9	82.5	83.4	1.44	1.51	2.56	1.75	1.31	0.5
Austria	− 0.3	Jun	− 1.5	Jun	− 0.4	− 0.5	103.0§	103.0	0.82	0.89	1.46	–	0.75	-1.3
Belgium	+ 20.8	Jun	+ 12.2	Mar	+ 3.2	+ 3.5	103.1§	103.0	0.82	0.89	1.46	–	0.75	-0.2
Britain	− 97.5	Jul	− 39.2	Q1	− 2.3	− 2.3	102.9	98.8	0.56	0.62	–	0.68	0.51	-2.9
Canada	+ 49.3	Jul	+ 23.8	Q2	+ 2.4	+ 2.1	88.7	85.6	1.30	1.37	2.31	1.58	1.18	1.2
Denmark	+ 10.4	Jul	+ 7.0	Jul	+ 2.7	+ 2.6	106.6	106.1	6.12	6.61	10.9	7.44	5.56	0.9
France	+ 2.5	Jul	− 0.7	Jul	+ 0.5	+ 0.6	106.5§	106.4	0.82	0.89	1.46	–	0.75	-3.8
Germany	+186.4	Jul	+ 95.1	Jul	+ 2.8	+ 2.8	104.3§	104.1	0.82	0.89	1.46	–	0.75	-3.7
Italy	+ 2.5	Jun	− 14.5	Jun	− 1.0	− 1.0	76.0§	75.9	0.82	0.89	1.46	–	0.75	-3.1
Japan	+133.4	Jul	+165.8	Jul	+ 3.5	+ 3.6	134.0	131.7	110	116	196	134	–	-7.1
Netherlands	+ 33.7	Jul	+ 20.7	Q2	+ 2.7	+ 2.9	102.6§	102.5	0.82	0.89	1.46	–	0.75	-3.1
Spain	− 62.4	Jun	− 30.0	May	− 2.8	− 2.9	77.1§	77.1	0.82	0.89	1.46	–	0.75	0.3
Sweden	+ 22.7	Jul	+ 23.4	Q2	+ 6.3	+ 6.1	81.4	81.3	7.51	8.06	13.3	9.13	6.82	0.2
Switzerland	+ 8.3	Jul	+ 37.5	Q1	+10.9	+10.6	112.5	110.9	1.27	1.38	2.26	1.54	1.15	-1.6
United States	−598.3	Jul	−571.9	Q2	− 5.1	− 5.0	96.9	103.5	–	–	1.78	1.21	0.91	-4.7
Euro area	+110.8	Jun	+ 59.7	Jun	+ 0.5	+ 0.5	90.8	89.3	0.82	0.89	1.46	–	0.75	-2.8
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*													
Finland	+ 14.8	Jul	+ 11.2	Jul	na	na	82.2§	82.0	0.82	0.89	1.46	–	0.75	1.6
Greece	− 27.8	Jun	− 9.3	Jun	na	na	59.6§	59.6	0.82	0.89	1.46	–	0.75	-3.2
Iceland	− 0.4	Jul	− 0.6	Q2	na	na	95.2**	99.1	72.0	79.3	128	87.5	65.3	0.2
Ireland	+ 41.8	Jun	− 2.1	Q1	na	na	94.2§	94.7	0.82	0.89	1.46	–	0.75	-0.5
Luxembourg	− 3.9	Jun	+ 3.2	Q1	na	na	103.1§	103.0	0.82	0.89	1.46	–	0.75	-1.8
New Zealand	− 2.1	Jul	− 3.4	Q1	na	na	105.9	98.7	1.52	1.72	2.70	1.85	1.38	2.9
Norway	+ 30.2	Aug	+ 30.1	Jun	na	na	95.8	97.6	6.92	7.29	12.3	8.41	6.28	10.4
Portugal	− 16.9	Jun	− 9.3	Jun	na	na	93.6**	93.8	0.82	0.89	1.46	–	0.75	-3.8

*Merchandise. Australia, Britain, France, Canada, Japan and United States imports fob, exports fob. All others cif/fob. †Bank of England except §IMF, July average. ‡OECD forecast. **IMF, May average.

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Top companies by market capitalisation

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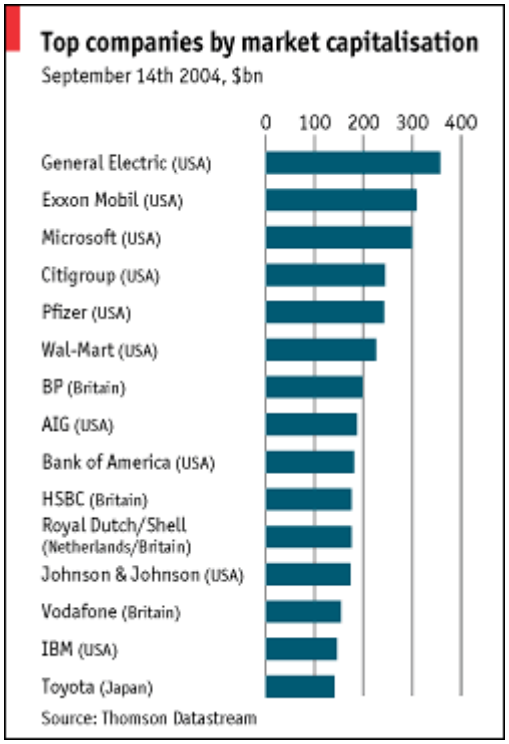

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Overview

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Turkey's economy grew by 13.4% in the year to the second quarter, up from 10.1% in the year to the first quarter.

Russia's economy grew by 7.4% in the year to the second quarter.

China posted a $4.49 billion trade surplus in August, a record this year.

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The opacity index

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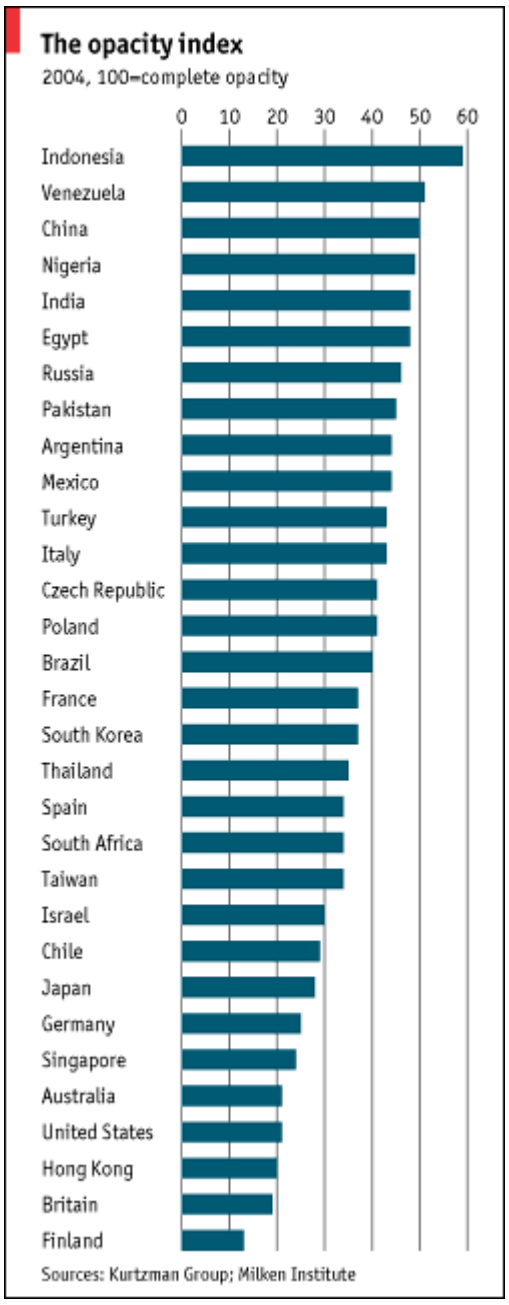
Finland has one of the world's most transparent business climates, according to an “opacity index” compiled by the Kurtzman Group, a consultancy. The index measures the risks associated with unclear legal systems, regulations, economic policies, corporate-governance standards and corruption in 48 countries. Britain has become more transparent over the past few years, while America's rating has fallen. Although it attracts much foreign investment, China is, surprisingly, even less transparent than Nigeria.

kp



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Economy

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	% change on year ago						Latest 12 months, $bn				Foreign reserves* $bn, latest	
	GDP		Industrial production		Consumer prices		Trade balance		Current account			
China	+ 9.6	Q2	+15.9	Aug	+ 5.3	Aug	+16.2	Aug	+45.9	2003	483.0	Jul
Hong Kong	+12.1	Q2	+ 1.8	Q1	+ 0.9	Jul	−13.4	Jul	+14.8	Q1	118.5	Aug
India	+ 8.2	Q1	+ 7.9	Jul	+ 3.2	Jul	−18.1	Jul	+ 8.7	Q1	112.1	Aug
Indonesia	+ 4.3	Q2	+15.0	Jun	+ 6.7	Aug	+24.8	Jul	+ 3.9	Q2	33.6	Jul
Malaysia	+ 8.0	Q2	+ 9.9	Jul	+ 1.4	Aug	+20.1	Jul	+13.0	Q1	54.5	Aug
Philippines	+ 6.2	Q2	+ 2.7	Jun	+ 6.3	Aug	− 1.5	Jun	+ 3.9	Mar	12.7	Aug
Singapore	+12.5	Q2	+19.0	Jul	+ 1.6	Jul	+15.7	Jul	+28.4	Q2	101.3	Aug
South Korea	+ 5.5	Q2	+12.8	Jul	+ 4.8	Aug	+29.2	Aug	+27.5	Jul	170.4	Aug
Taiwan	+ 7.7	Q2	+ 9.5	Jul	+ 2.5	Aug	+11.6	Aug	+25.8	Q2	231.6	Aug
Thailand	+ 6.3	Q2	+ 9.3	Jul	+ 3.1	Aug	+ 1.8	Jul	+ 7.2	Jul	42.4	Jul
Argentina	+10.7	Q1	+ 8.3	Jul	+ 5.2	Aug	+12.8	Jul	+ 6.1	Q1	18.1	Aug
Brazil	+ 5.7	Q2	+ 9.6	Jul	+ 7.2	Aug	+31.7	Aug	+ 9.2	Jul	49.7	Jul
Chile	+ 5.1	Q2	+ 5.8	Jul	+ 1.6	Aug	+ 7.4	Aug	+ 1.2	Q2	15.8	Aug
Colombia	+ 4.3	Q2	+11.7	Jun	+ 5.9	Aug	+ 0.1	Jun	− 1.6	Q1	12.0	Aug
Mexico	+ 3.9	Q2	+ 3.8	Jul	+ 4.8	Aug	− 5.7	Jul	− 6.7	Q2	60.3	Jul
Peru	+ 3.0	Jun	+ 8.4	Jul	+ 4.6	Aug	+ 1.8	Jul	− 0.7	Q2	10.2	Aug
Venezuela	+13.6	Q2	+32.2	Jun	+21.9	Aug	+20.3	Q2	+14.0	Q2	18.0	Jun
Egypt	+ 3.1	2003†	+ 2.6	2003†	+16.5	May‡	− 7.5	Q2	+ 3.7	Q2	13.3	May
Israel	+ 3.0	Q2	+11.0	Jun	+ 0.5	Aug	− 6.2	Aug	+ 0.3	Q1	26.1	Aug
South Africa	+ 2.5	Q2	+ 5.5	Jul	+ 1.6	Jul	− 0.2	Jul	− 2.0	Q1	10.4	Aug
Turkey	+13.4	Q2	+12.8	Jul	+10.0	Aug	−30.3	Jul	−11.6	Jul	32.4	Jul
Czech Republic	+ 4.1	Q2	+11.0	Jul	+ 3.4	Aug	− 2.1	Jul	− 6.2	Q2	26.3	Aug
Hungary	+ 4.0	Q2	+ 7.6	Jul	+ 7.2	Aug	− 3.6	Apr	− 8.4	Apr	12.8	Aug
Poland	+ 6.1	Q2	+ 6.0	Jul	+ 4.6	Aug	− 5.3	Jul	− 4.0	Jul	34.6	Jul
Russia	+ 7.4	Q2	+ 6.8	Aug	+11.3	Aug	+69.5	Jul	+38.4	Q2	84.9	Aug
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*											
Estonia	+ 6.0	Q2	+ 6.3	Jul	+ 4.0	Aug	− 2.5	Jun	− 1.2	Q1	1.4	Jul
Latvia	+ 7.7	Q2	+ 7.8	Jul	+ 6.7	Jul	− 2.5	Jun	− 1.4	Jun	1.6	Jul
Lithuania	+ 6.9	Q2	na		+ 2.2	Aug	− 3.0	Jun	− 1.5	Q1	3.3	Jul
Slovakia	+ 5.4	Q2	+ 0.7	Jul	+ 7.2	Aug	− 0.7	Jun	− 0.4	May	12.8	Jul
Slovenia	+ 3.7	Q1	+ 3.0	Jul	+ 3.7	Aug	− 0.9	Jul	− 0.2	Jun	7.9	Jun
Pakistan	+ 5.1	2003†	+24.8	May	+ 9.2	Aug	− 3.7	Aug	+ 1.8	Q2	11.2	Jun
Saudi Arabia	+ 7.2	2003	na		+ 0.2	Jun	+61.2	2003	+29.7	2003	22.2	Aug

*Excluding gold, except Singapore; IMF definition. †Year ending June. ‡New series, % change Jan-May annualised.

Sources: National statistics offices, central banks and stock exchanges; Thomson Datastream; Economist Intelligence Unit; Reuters; J.P. Morgan Chase; Hong Kong Monetary Authority; Centre for Monitoring Indian Economy; FIEL; EFG-Hermes; Bank Leumi Le-Israel; Standard Bank Group; Akbank; Deutsche Bank

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Financial markets

Sep 16th 2004
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	Currency units			Interest rates	Stockmarkets	% change on		
	per $		per £	short-term	Sep 15th		Dec 31st 2003	
	Sep 15th	year ago	Sep 15th	% p.a.		one week	in local currency	in $ terms
China	8.28	8.28	14.7	2.75	1,421.6	+3.5	– 9.4	– 9.4
Hong Kong	7.80	7.80	13.9	0.89	13,084.4	+0.3	+ 4.0	+ 3.6
India	45.8	45.7	81.3	4.65	5,420.1	+2.3	– 7.2	– 7.5
Indonesia	9,115	8,425	16,190	7.49	815.5	+3.3	+ 17.9	+ 8.9
Malaysia	3.80	3.80	6.75	2.87	853.2	+0.4	+ 7.5	+ 7.5
Philippines	56.2	54.9	99.8	7.44	1,706.1	– 1.3	+ 18.3	+ 16.9
Singapore	1.69	1.75	3.00	1.44	2,004.0	+2.3	+ 13.6	+ 14.0
South Korea	1,144	1,170	2,032	3.52	850.6	+4.3	+ 4.9	+ 9.3
Taiwan	33.8	34.1	59.9	1.15	5,871.1	+0.4	– 0.3	+ 0.3
Thailand	41.3	40.4	73.4	1.74	662.3	+5.1	– 14.2	– 17.7
Argentina	2.99	2.93	5.30	5.63	1,026.4	+4.0	– 4.2	– 6.0
Brazil	2.90	2.91	5.15	15.94	22,353.3	– 0.8	+ 0.5	– 0.1
Chile	615	681	1,093	1.68	8,284.2	+1.7	+ 12.9	+ 8.7
Colombia	2,533	2,823	4,499	7.80	3,586.4	+6.3	+ 53.7	+ 68.6
Mexico	11.5	10.9	20.5	7.27	10,660.9	+1.2	+ 21.2	+ 18.1
Peru	3.35	3.48	5.95	2.66	3,004.1	+4.6	+ 23.4	+ 27.5
Venezuela	2,535§	1,598	4,503	13.75	30,856.2	+5.9	+ 39.0	+ 56.3
Egypt	6.23	6.15	11.07	10.71	19,969.0	+10.7	+ 71.6	+ 69.7
Israel	4.48	4.48	7.95	1.00	565.8	+1.3	+ 5.9	+ 3.9
South Africa	6.58	7.40	11.7	7.45	11,219.7	+0.3	+ 8.0	+ 9.5
Turkey	1,496,000	1,388,000	2,657,195	23.00	21,616.5	+0.7	+ 16.1	+ 9.0
Czech Republic	25.8	29.3	45.8	2.72	856.4	+2.2	+ 29.9	+ 29.3
Hungary	203	229	360	11.14	11,956.4	– 0.5	+ 27.5	+ 30.3
Poland	3.57	3.97	6.35	7.17	25,182.2	+0.9	+ 21.0	+ 26.7
Russia	29.2	30.6	51.9	13.00	612.0‡	+2.7	+ 7.8	+ 7.9
EMF (MSCI)*	1.00	1.00	1.78	na	456.0	+2.3	+ 3.0	+ 3.0
EMBI+†	1.00	1.00	1.78	na	311.4	+0.5	+ 5.6	+ 5.6

*Emerging Mkts Free. †J.P. Morgan Chase's Emerging Mkts Bond Index Plus. ‡In $ terms. §Floating exchange rate.

Sources: National statistics offices, central banks and stock exchanges; Thomson Datastream; Economist Intelligence Unit; Reuters; J.P. Morgan Chase; Hong Kong Monetary Authority; Centre for Monitoring Indian Economy; FIEL; EFG-Hermes; Bank Leumi Le-Israel; Standard Bank Group; Akbank; Deutsche Bank

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